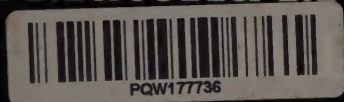


**Bulletin Of The Lloyd
Library Of Botany, Pharmacy
And Materia Medica, Issues**



2



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REPRODUCTION SERIES, NO. 7.

BULLETIN
of the
LLOYD LIBRARY
of
BOTANY, PHARMACY AND
MATERIA MEDICA

J. U. & C. G. LLOYD
CINCINNATI, OHIO

REPRODUCTION SERIES, No. 7.

LIFE AND MEDICAL DISCOVERIES

SAMUEL THOMSON,

and a history of

THE THOMSONIAN MATERIA MEDICA,

as shown in "THE NEW GUIDE TO HEALTH" (1839),
and the literature of that day.

Included:

Portrait of SAMUEL THOMSON; Facsimile of THOMSON'S "PATENT"
to the PRACTICE OF MEDICINE; the famous LETTER OF PROFESSOR BEN-
JAMIN WATERHOUSE, M. D.; the celebrated "TRIAL OF DR. FROST," and
other features of a remarkable epoch in AMERICAN MEDICAL HISTORY.

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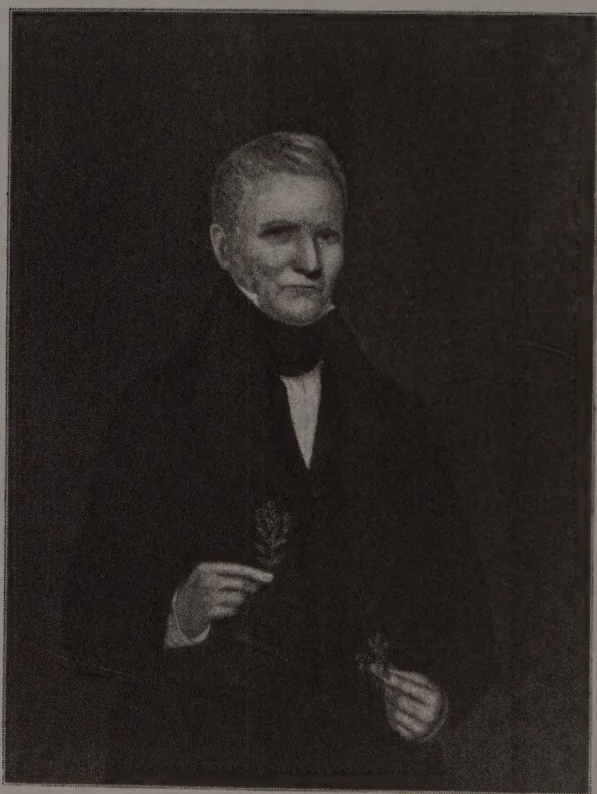
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SAM^L. THOMSON. BOTANIST.

His System and practice originating with himself.

Born Feb'y 9th 1769.

[From "The Thomsonian Materia Medica," 1841.]

BULLETIN NO. 11.

1909.

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BULLETIN

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CHICAGO, ILL.
1917

EDITOR'S INTRODUCTION

SAMUEL THOMSON. In presenting this Bulletin of the Lloyd Library, the editor finds it necessary to deviate from the methods adopted in the publications heretofore offered in our Reproduction Series. In the preceding issues, the aim has been to present *fac similes* of each work, even to the copying of gross errors, and the imitation, as far as possible, of both the type and the manuscript form of the publication. In the present Bulletin such a method is impossible, owing both to the extent and cosmopolitan nature of the publication we are presenting, and to the fact that our aim is to portray the MAN, and picture conditions of that period, rather than to present in full any one or more of his works. In our opinion, a comprehension of this remarkable man can be accomplished only by bringing the reader into touch with conspicuous phases of his life and examples of his methods, as well as by a realization of his ideals, as shown by the efforts and the sacrifices he made, in the face of the most pronounced resistance to his processes. This we aim to do in the pages that follow.

In our opinion, this Bulletin will give to the reader a fair picture not only of the man before us, but also of the conditions that, at the time mentioned, dominated the disciples of the healing art in America. To this we may add that one can not now easily enter into the problems of that day concerning medicine and the practice of medicine. The passion, the dogmatism, the vituperation of the period, the suppression of free thought and investigation outside authority, is a something that can not now be expressed or readily appreciated. But a touch of it all can be grasped and partly comprehended by noting the evolution that has taken place in the fields of American pharmacy and medicine since the beginning of the last century; by contrasting present conditions with the period typified in the record of Samuel Thomson.

The *New Guide to Health*, whose title-page is given in *fac simile*, was first issued by Samuel Thomson in 1822. It passed rapidly through many editions, some of them exceedingly large, but with few changes other than supplements, as shown in the Additions, reproduced by us, pages 50-54.

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No. 11-12
(1909-1910)

EDITOR'S INTRODUCTION

That 1835, one-volume edition, in small type set solid, comprised both the *Narrative*, 228 pages, and the *Guide to Health*, the latter consisting of a description of diseases and their treatment, 168 pages. The latter section, which was in the outset Thomson's *Materia Medica* and methods of practice, was afterwards issued in more pretentious form as *Thomson's Materia Medica or Botanic Family Physician*. It carried a discursive introduction, a work on anatomy, a section on materia medica, and one on botany, as well as one on the theory and practice of medicine according to the Thomsonian methods. A number of editions of this work were issued by Thomson and his agents, until in 1841 appeared the unabridged *Thirteenth Edition*, issued by his son, John Thomson, the elaboration of which, however, did not altogether meet the approval of the original author. Hence we find, page 831 of the 1841 edition, an editorial note by John Thomson, illustrating the manner in which his father insists upon the work being accompanied by the following qualified statement, in order to show his disapproval of the innovations named.

"IMPORTANT NOTICE."

"The following objections to the different articles and compounds in this book, were made by Dr. Samuel Thomson, after the work was printed. And in justice to him, and out of respect to his opinion, we insert them here, that every one may know that his opinion is not changed in relation to cathartics, and that what is said upon that subject is done on our own responsibility, and for which Dr. Thomson is not to be held responsible. The following are the objections, viz.

All cathartic medicine, of every kind; also, the compounding of the black salve, on page 734 (for which we have inserted a substitute on page 823); borax for sore mouth, page 738; maple charcoal to prevent mortification, on page 727; a paper saturated with salt petre, and burned, to relieve asthma, page 742; Peruvian bark to clean the teeth, page 740; poke root made into ointment for the piles, page 741; sulphate of zinc compounded into poultices for syphilitic ulcers, page 733; burnt alum for dysentery, page 726; tobacco emetic pills, page 700; asafetida for hysteria, page 634; blood root for emetic, page 684; black cohosh to cure rheumatism, and to regulate the monthly turns with females, page 643; and, page 695, the injection should be given before steaming.

It is to be understood, that he objects to the use of those articles, in every form or shape whatever, except the enemas."

JOHN THOMSON.

(*Thomson's Materia Medica or Botanic Family Physician*, 1841.)

In our reproduction of the text of the *New Guide to Health*, as given in this Bulletin, pages 3 to 64, no change has been made in statement or in text, other than in editorially excising, in blocks, more or less material unnecessary to the presentation of Samuel Thomson's life, as written by himself. These excluded fragments are usually accounts of special cases illustrating his methods, or disconnected digressions which

EDITOR'S INTRODUCTION

may be omitted without in any wise affecting the continuity of the work. In some instances the excluded portions comprise not more than half a page, while in other cases several successive pages are excised. Had the entire text been reproduced, our Bulletin would have been fully twice its present size; but we take it, all the important features concerning the events in Thomson's life, as he has recorded them, are connectedly presented. To this we will add that the *headings of the paragraphs* are all our own.*

One feature in Thomson's life is absolutely ignored in his writings, nor is it, so far as we know, elsewhere recorded. On page 51 of this Bulletin is to be found an intimation by him that he was involved by Mr. Locke in the famous Morgan Masonic controversy, then raging in New York. This leads us to state that a share, and possibly no small proportion, of Thomson's troubles, came also from his pronounced political activity, at a time when in American politics no toleration whatever was exhibited by one party for an adherent of the opposite political faith. We have it in a letter from the late Alexander Wilder, M. D., to ourselves personally, that Thomson's allegiance to the minority party of that date led to much of his persecution, a fact that Thomson utterly ignores in any print that we have seen from his pen.

On page 50 and following, of this Bulletin, subsequent to the *Narrative and Guide*, we introduce the Additions made to that publication in the 1825 edition, and on page 51 the Additions made in 1831, both of which, in connection with the life history of Samuel Thomson, are of exceeding interest. On page 54 we reproduce a *Notice*, by which he authorized agents to sell his patented rights to the *Botanical System of Practice in Medicine*, and another from an authorized agent, announcing the right to practice by that authority. Following these are a couple of characteristic reproductions (pages 54, 55) showing the turn of Thomson's mind for philosophizing over incidents.

Pages 56 to 64 present the letters of Professor Benjamin Waterhouse, M. D., to whom the 1841 edition of Thomson's *Materia Medica* is dedicated, these being also published in the 1835 edition of Thomson's *Guide to Health*. The comments upon these letters, pages 63, 64, are written by the editor of this Bulletin.

Page 65 is a reproduction of the title-page of a pamphlet concerning the celebrated Trial of Dr. Frost, from which enough is taken, pages 67-74, to make a lucid account, illustrating the manner in which Thomson's disciples were handled at that time. The introduction to this section,

* "*Concentrated Principles*" (now in process) will, we hope, soon be issued as a companion Bulletin to this one. In this, the history of the evolution of Thomsonism and Eclecticism is continued and amplified.

EDITOR'S INTRODUCTION

page 67, is also from our pen, as well as are the remarks concerning lobelia, page 73, and the closing paragraph, page 74.

Pages 75-77 give a list of the authorized Thomsonian remedies, together with an introduction to same (page 75) by ourselves. Following, on page 78, is to be found the advertisement of Dr. John Rose, Editor of the *Lobelia Advocate*, 1838, as well as an advertisement of the Botanico-Medical College, Cincinnati, Ohio, 1844. Following these, 79-85, come verbatim reproductions of directions for taking the Thomsonian Courses of Medicine. Here we offer a few editorial remarks, and have added (page 85) the remedies recognized under Thomson's famous numbers, 1 to 6.

In pages 86-89, Nathaniel S. Magoon, of Boston, in whose house Thomson spent his last days, describes the death of this remarkable man.

We have, in our opinion, made a collaborated record, presenting succinctly to the readers of this Bulletin the life of the man who, in one way or another, exerted a tremendous influence on the American practice of medicine. In this may be included the efforts of antagonists who but for Thomson would not have become conspicuous, or even known, as well as of reformers, to whom Thomson's aggressive methods and Thomson's suggestions proved a stimulus. Out of it all came the kindlier theories that have largely succeeded the heroic age, an era of barbarism, in American medicine. And, in our opinion, one and all at the present time can, in charity for all who were involved at that day, and without bitterness towards any one, review this story of the past, crediting those to whom credit is due.

JOHN URI LLOYD.

NEW
GUIDE TO HEALTH;
OR
Botanic Family Physician.

CONTAINING
A COMPLETE SYSTEM OF PRACTICE,
ON A PLAN ENTIRELY NEW:
WITH A DESCRIPTION OF THE VEGETABLES MADE USE OF,
AND DIRECTIONS FOR PREPARING AND ADMIN-
ISTERING THEM, TO CURE DISEASE.

TO WHICH IS PREFIXED,
A NARRATIVE
OF THE
LIFE AND MEDICAL DISCOVERIES
OF THE AUTHOR.

BY SAMUEL THOMSON.

BOSTON:
Printed for the Author, and sold by his General Agent, at
the Office of the Boston Investigator.
J. Q. ADAMS, Printer.
1835.

[Entered according to Act of Congress, in the year
1835, by SAMUEL THOMSON, in the Clerk's Office
of the District Court of Massachusetts.]

ADVERTISEMENT

TO THE PUBLIC

THE preparing of the following work for the press, has been of much difficulty and labor, for to comprise in a short compass convey a correct understanding of the subject, from such materials as I have been enabled to collect, by thirty years' practice business of no small magnitude. The plan that has been adopted is the best to give a correct knowledge of my system of practice; confident that the descriptions and directions are sufficiently explicit to be understood by all those who take an interest in this important subject. Much more might have been written; but the main object has been to confine it to the practice, and nothing more is stated of the theory than what was necessary to give a general knowledge of the system. If errors should be discovered, it is hoped that they will be viewed with candor; for in first publishing a work, such things are to be expected. Much care has been taken that there should be no error, which might cause any mistake in the practice, or preparing the medicine.

Many persons are practising by my system, who are in the habit of pretending that they have made great improvements, and in some cases it is well-known that poisonous drugs have been made use of in the name of my medicine, which has counteracted its operation, and tended to destroy the confidence of the public in my system of practice. This has never been authorized by me. The public are therefore warned against such conduct, and all those who are well disposed to support the system, are desired to lend their aid in exposing all such dishonest practices, in order that justice may be done. Those who possess the opportunity, by examining it, be able to detect any improper deviations from the directions given, and they are assured that any practice which is not conformable to the directions given, and does not agree with the principles herein laid down, is unauthorized by me.

[The above is the preface to Thomson's original edition, 1822.—L.]

"NARRATIVE OF THE LIFE, &c., OF SAMUEL THOMSON"*

Childhood of Samuel Thomson.

THERE is nothing, perhaps, more unpleasant than to write one's own life; for in doing it we are obliged to pass over again, as it were, many scenes, which we might wish to have forgotten, and relate many particulars, which, though they may seem very important to ourselves, yet would be very uninteresting to the reader. It is not my intention to attempt to write a history of my life, nor would it be in my power to do it if I had such a wish; but as I have been the greater part of my life engaged in one of the most important pursuits, and which is of more consequence to the great human family, than any other that could be undertaken by man; that of alleviating human misery, by curing all cases of disease by the most simple, safe, and certain method of practice, I think the public will be interested to know something of me, and the reason of my having taken upon myself so important a calling, without being regularly educated to the profession, which is thought by the world to be indispensably necessary; but I shall take the liberty to disagree a little with them in this particular; for, although learning may be a great advantage in acquiring a profession, yet that alone will never make a great man, where there is no natural gift.

By giving a short sketch of the early part of my existence, and relating those accidental circumstances that have occurred during my life, and which were principally the cause of my engaging in the healing art, will enable the public to judge more correctly, whether I have taken that course, in fulfilling my duty in this life, which the God of nature hath pointed out for me. In doing this, I shall endeavor to give a plain and simple narrative of facts as they took place, and relate only those particulars of my life, with such of the cases that have come under my care, as will best convey to the reader, the most correct information of my system of practice in curing disease.

I was born February 9, 1769, in the town of Alstead, county of Cheshire, and State of New Hampshire. My father, John Thomson, was born in Northbridge, county of Worcester, and State of Massachusetts; he was twenty-five years old when I was born. My mother's name was Hannah Cobb; she was born in Medway, Mass., and was four years older than my father. I had one sister older than myself, and three brothers and one sister younger, who are all living except my second brother, who died in his fourteenth year. My oldest sister married Samuel Hilla, and lives in Surry, New Hampshire, and my two brothers live in Jericho, Vermont. My youngest sister married Waters Mather, and lives in the State of Ohio.

That country was a wilderness when I was born; my father had began there about a year before, at which time there was no house within three miles one way,

* This is an autobiography. It was many times reprinted, but no account was kept of their number.—L.

SAMUEL THOMSON

and about one the other; there were no roads, and they had to go by marked trails. The snow was very deep when they moved there, and my mother had to travel over a mile on snow shoes through the woods to get to their habitation. My father and I were poor, having nothing to begin the world with; but had to depend upon our labor for support. My father had bought a piece of wild land on credit, and was to pay for it by his labor in what he could make off the land, which caused great hardships and deprivations for a long time.

As soon as I began to form any correct ideas of things, my mind was irritated by the impressions made on it by my parents, who, no doubt with good intentions, filled my young head with all kinds of hob-goblin and ghost stories, which made a very deep impression on my mind, and which were entirely eradicated for many years. I mention this as a caution to parents, to tell their children any thing but the truth; for young children naturally believe whatever their parents tell them, and when they frighten them with such stories for the purpose of making them behave well, it will most generally have a bad effect; for when they arrive at years of discretion, and find that all these stories are falsehoods, they will naturally form very unfavorable opinions of their parents, whose duty it is to set them better examples.

Domestic Medicine in Thomson's Day.

When I was between three and four years old, my father took me out with him to work. The first business I was set to do was to drive the cows to pasture and watch the geese, with other small chores, which occupation kept me busy in the fields. I was very curious to know the names of all the herbs which grew, and what they were good for; and, to satisfy my curiosity was constantly making inquiries of the persons I happened to be with, for that purpose. From the information I thus obtained, or by my own observation, I carefully laid up in my memory, and never forgot. There was an old lady by the name of Bentons near us, who used to attend our family when there was any sickness. At that time there was no such thing as a Doctor known among us, there not being within ten miles. The whole of her practice was with roots and herbs, applied to the patient, or given in hot drinks, to produce sweating; which always answered the purpose. When one thing did not produce the desired effect, she would try something else, till they were relieved. By her attention to the family, and the benefits they received from her skill, we became very much attached to her, when she used to go out to collect roots and herbs, she would take me with her and learn me their names, with what they were good for; and I used to be very curious in my inquiries, and in tasting every thing that I found. The information I thus obtained at this early age, was afterwards of great use to me.

Discovery of Lobelia.

Sometime in the summer, after I was four years old, being out in the fields in search of the cows, I discovered a plant which had a singular branch and that I had never before seen, and I had the curiosity to pick some of the leaves and chew them; the taste and operation produced was so remarkable, that I forgot it. I afterwards used to induce other boys to chew it, merely by way of sport, to see them vomit. I tried this herb in this way for nearly twenty years without knowing any thing of its medical virtues. This plant is what I have called the Emetic Herb, and is the most important article I make use of in my practice. It is very common in most parts of this country, and may be prepared and

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in almost any manner. It is a certain counter poison, having never been known to fail to counteract the effects of the most deadly poison, even when taken in large quantities for self-destruction. There is no danger to be apprehended from its use, as it is perfectly harmless in its operation, even when a large quantity is taken; it operates as an emetic, cleanses the stomach from all improper aliment, promotes an internal heat, which is immediately felt at the extremities, and produces perspiration.

The Lobelia Patent, "My Right to the Discovery."

The exclusive right of using this plant for medical purposes is secured to me by patent, and my right to the discovery has never been disputed; though the Doctors have done every thing they could to destroy the credit of it, by false statements, representing it to be a deadly poison, and at the same time they knew to the contrary, for they have made use of it themselves for several years, and have tried to defraud me of the discovery. I feel perfectly convinced from near forty years' experience of its medical properties, that the discovery is of incalculable importance, and if properly understood by the people will be more useful in curing the diseases incident to this climate, than the drugs and medicines sold by all the apothecaries in the country.

Experimentation with Lobelia on Child Friends.

The winter I was eight years old, I was very sick with the canker-rash; but was attended by the widow Benton, who cured me by making use of such medicine as our country afforded, and I was in a short time able to be about. After I had got well, my mind was more attentive to the use of roots and herbs as medicine, than ever. I had at that time a very good knowledge of the principal roots and herbs to be found in that part of the country, with their names and medical uses; and the neighbors were in the habit of getting me to go with them to show them such roots and herbs as the doctors ordered to be made use of in sickness, for syrups, &c. and by way of sport they used to call me doctor. While in the field at work I used often to find the herb, which I tasted when four years old, and gave it to those who worked with me, to see them spit and often vomit; but I never observed any bad effect produced by it, which simple experiments eventually led me to observe the value of it in disease.

Hope of Becoming a Physician and Subsequent Disappointment.

Sometime during the year that I was sixteen years old, I heard my parents say, that as my mind was so much taken up with roots and herbs, they thought it best to send me to live with a Doctor Fuller, of Westmoreland, who was called a root doctor. This pleased me very much, and in some measure raised my ambition; but I was soon after disappointed in my hopes, for they said I had not learning enough, and they did not know how to spare me from my work, which depressed my spirits, and was very discouraging to me. I now gave up all hopes of going to any other business, and tried to reconcile myself to spend my days in working on a farm, which made me very unhappy. I had little learning, and was awkward and ignorant of the world, as my father had never given me any chance to go into company, to learn how to behave, which caused me great uneasiness.

SAMUEL THOMSON

A Wound and its Results illustrating the Terrible Methods of Medical Practice, Domestic, Empirical, and Regular at that Date. "My father in dressing my wound had drawn a string through between the heel-cord and the bone, and another between that and the skin; so that two-thirds of the way round my ankle was hollow."

In the year 1788, when I was in my nineteenth year, my father purchased a piece of land on Onion river, in the state of Vermont, and on the 12th day of October, he started from Alstead, and took me with him, to go to work on the land and clear up some of it to build a house on, as it was all covered with wood. In about four days after our arrival, we were enabled to clear a small spot and to build us a camp to live in; we had to do our own cooking and washing; our fare was poor, and we had to work very hard; but we got along tolerably well till the 2d of December, when I had the misfortune to cut my ankle very badly, which accident prevented me from doing any labor for a long time, and almost deprived me of life. The wound was a very bad one, as it split the joint and laid the bone entirely bare, so as to lose the juices of my ankle joint to such a degree as to reduce my strength very much. My father sent for a Doctor Cole, of Jericho, who ordered sweet apple-tree bark to be boiled, and the wound to be washed with it, which caused great pain, and made it much worse, so that in eight days my strength was almost exhausted; the flesh on my leg and thigh was mostly gone, and my life was despaired of; the doctor said he could do no more for me; my father was greatly alarmed about me, and said that if Dr. Kitteridge, of Walpole, could be sent for, he thought he might help me; but I told him it would be in vain to send for him, for I could not live so long as it would take to go after him, without some immediate assistance. He said he did not know what to do; I told him that there was one thing I had thought of which I wished to have tried, if it could be obtained, that I thought would help me. He anxiously inquired what it was, and I told him if he could find some comfrey root, I would try a plaster made of that and turpentine. He immediately went to an old place that was settled before the war, and had the good luck to find some; a plaster was prepared by my directions and applied to my ankle, the side opposite to the wound, and had the desired effect; the juices stopped running in about six hours, and I was very much relieved; though the pain continued to be very severe and the inflammation was great; the juices settled between the skin and bone, and caused a suppuration, which broke in about three weeks; during which time I did not have three nights sleep, nor did I eat any thing. This accidental remedy was found through necessity, and was the first time the mother of invention held forth her hand to me. The success which attended this experiment, and the natural turn of my mind to those things, I think was a principal cause of my continuing to practice the healing art to this time.

Our stock of provisions being now exhausted, and my wound somewhat better, my father was very anxious to return to Alstead. He asked me if I thought I could bear the journey, if he should place me on a bed laid in a sled. I answered that I was willing to try. He immediately went to work and fixed a sled, and put me in it on a straw bed; and on the first day of January, 1789, we began our journey. There was very little snow, and the road rough, which caused the sled to jolt very much, and my sufferings were great. It was very doubtful with my father, and likewise with me, whether I should live to perform the journey; but we proceeded on, however, without any thing important happening, except wearing out the runners of our sled, and having to make new ones, and accomplished twenty

SAMUEL THOMSON

miles the first day. At a place where we stopped all night, there was a woman whose situation appeared to me so much worse than my own, that I felt much encouraged. She had been sick with a fever, and the doctor had given so much poisonous medicine, to break the fever, as he called it, she was left in a most miserable situation. Her side and shoulder were in a putrid state, and in full as bad a condition as my ankle. My father in dressing my wound had drawn a string through between the heel-cord and bone, and another between that and the skin; so that two-thirds of the way round my ankle was hollow.

Discouraged to Desperation. Dr. Kitteridge Becomes a Good Samaritan.

When we got on to the high land there was considerable snow, and we got along much more comfortably. I had to be carried in on the bed and laid by the fire, every night during the journey. The people generally, where we stopped, treated me with kindness, and showed much pity for me in my distressed situation; but they all thought that I should not live to get through the journey. The doctors had advised to have my leg cut off, as the only means of saving my life, and all those who saw me during our journey, expressed the same opinion; and I think it would have been done had I given my consent; but I positively refused to agree to it, so the plan was given up. I preferred to take my chance with my leg on, to having it taken off; which resolution I have never repented of, to this day.

On arriving in Walpole, my father proceeded immediately to the house of the famous Dr. Kitteridge, to have him dress my wound, and get his opinion of my situation; he not being at home, and it being nearly dark, we concluded to put up for the night, and I was carried in on my bed and laid by the fire. The doctor soon came home, and on entering the room where I was, cried out in a very rough manner, Who have you here? His wife answered, a sick man. The devil, replied he, I want no sick man here. I was much terrified by his coarse manner of speaking, and thought if he was so rough in his conversation, what will he be when he comes to dress my wound; but I was happily disappointed, for he took off the dressing with great care, and handled me very tenderly. On seeing the strings that were in the wound, he exclaimed, What the devil are these halters here for? My father told him they were put in to keep the sore open. He said he thought the sore open enough now, for it is all rotten. Being anxious to know his opinion of me, my father asked him what he thought of my situation. What do I think? said he, why I think he will die; and then looking very pleasantly at me, said, though I think young man, you will get well first. In the morning he dressed my ankle again, and gave me some salve to use in future; and my father asked him for his bill, which was, I think, for our keeping and his attending me, about fifty cents. A great contrast between this and what is charged at the present time by our regular physicians; for they will hardly look at a person without making them pay two or three dollars. I have been more particular in describing this interview with Dr. Kitteridge, on account of his extraordinary skill in surgery, and the great name he acquired, and justly deserved, among the people throughout the country. His system of practice was peculiarly his own, and all the medicines he used were prepared by himself, from the roots and herbs of our own country. He was a very eccentric character, and uncouth in his manners; but he possessed a good heart, and a benevolent disposition. He was governed in his practice by that great plan which is dictated by nature; and the uncommon success he met with is evidence enough to satisfy any reasonable mind, of the

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superiority of it over what is the practice of those who become doctors by reading only, with their poisons and their instruments of torture.

Empirical Study of Field and Forest Plants.

My mind was bent on learning the medical properties of such vegetables as I met with, and was constantly in the habit of tasting every thing of the kind I saw; and having a retentive memory, I have always recollected the taste and use of all that were ever shown me by others, and likewise of all that I discovered myself. This practice of tasting of herbs and roots has been of great advantage to me, as I have always been able to ascertain what is useful for any particular disease, by that means. I was often told that I should poison myself by tasting every thing I saw; but I thought I ought to have as much knowledge as a beast, for they possess an instinct to discover what is good for food, and what is necessary for medicine. I had but very little knowledge of disease at this time; but had a great inclination to learn whatever I had an opportunity; and my own experience, which is the best school, had often called my attention to the subject.

First Overdose of Lobelia and Its Results.

The herb which I had discovered when four years old, I had often met with; but it had never occurred to me that it was of any value as medicine, until about this time, when mowing in the field with a number of men, one day, I cut a sprig of it, and gave it to the man next to me, who ate it; when he had got to the end of the piece, which was about six rods, he said that he believed what I had given him would kill him, for he never felt so in his life. I looked at him and saw that he was in a most profuse perspiration, being as wet all over as he could be; he trembled very much, and there was no more color in him than a corpse. I told him to go to the spring and drink some water; he attempted to go, and got as far as the wall, but was unable to get over it, and laid down on the ground and vomited several times. He said he thought he threw off his stomach two quarts. I then helped him into the house, and in about two hours he ate a very hearty dinner, and in the afternoon was able to do a good half day's labor. He afterwards told me that he never had anything do him so much good in his life; his appetite was remarkably good, and he felt better than he had for a long time. This circumstance gave me the first idea of the medical virtues of this valuable plant, which I have since found by forty years' experience, in which time I have made use of it in every disease I have met with, to great advantage, that it is a discovery of the greatest importance.

First Use of "Steaming" by Thomson.

When my second daughter was about two years old she was taken sick, and had what is called the canker-rash. Dr. Bliss, who lived on my farm, was sent for, and he said she had that disorder as bad as any one he ever saw. He tried his utmost skill to prevent putrefaction, which he feared would take place; but after using every exertion in his power, without doing her any good, he said he could do no more, she must die. She was senseless, and the canker was to be seen in her mouth, nose, and ears, and one of her eyes was covered with it and closed; the other began to swell and turn purple also. I asked the doctor if he could not keep the canker out of this eye; but he said it would be of no use, for she could not live. I told him that if he could do no more, I would try what I

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could do myself. I found that if the canker could not be stopped immediately, she would be blind with both eyes. She was so distressed for breath that she would spring straight up on end in struggling to breathe. I sat myself in a chair, and held her in my lap, and put a blanket round us both; then my wife held a hot spider or shovel between my feet, and I poured on vinegar to raise a steam, and kept it as hot as I found she could bear, changing them as soon as they became cold; and by following this plan for about twenty minutes, she became comfortable and breathed easy. I kept a cloth wet with cold water on her eyes, changing it often, as it grew warm. I followed this plan, steaming her every two hours, for about a week, when she began to gain. Her eyes came open, and the one that was the worst, was completely covered with canker, and was as white as paper. I used a wash of rosemary to take off the canker; and when the scale came off, the sight came out with it; and it entirely perished. The other eye was saved, to the astonishment of all who saw her, particularly the doctor, who used frequently to call to see how she did. He said she was saved entirely by the plan I had pursued, and the great care and attention paid to her. She entirely recovered from the disease, with the exception of the loss of one eye, and has enjoyed good health to this time. This was the first of my finding out the plan of steaming and using cold water. After this I found by experience that by putting a hot stone into a thing of hot water, leaving it partly out of the water, and then pouring vinegar on the stone, was an improvement. Care should be taken not to raise the heat too fast; and I used to put a cloth wet with cold water on the stomach, at the same time giving hot medicine to raise the heat inside; and when they had been steamed in this manner so long as I thought they could bear it, then rub them all over with a cloth wet with spirit, vinegar, or cold water, change their clothes and bed clothes, and then let them go to bed.

Beginning of Thomson's Theory, "Food the Fuel that Continues the Fire or Life of Man. Maintain the Internal Heat and Restore Perspiration."

I had not the most distant idea at this time of ever engaging in the practice of medicine, more than to assist my own family; and little did I think what those severe trials and sufferings I experienced in the cases that have been mentioned, and which I was drove to by necessity, were to bring about. It seemed as a judgment upon me, that either myself or family, or some one living with me, were sick most of the time the doctor lived on my farm, which was about seven years. Since I have had more experience, and become better acquainted with the subject, I am satisfied in my own mind of the cause. When ever any of the family took a cold, the doctor was sent for, who would always either bleed or give physic. Taking away the blood reduces the heat, and gives power to the cold they had taken, which increases the disorder, and the coldness of the stomach causes canker; the physic drives all the determining powers from the surface inwardly, and scatters the canker through the stomach and bowels, which holds the cold inside, and drives the heat on the outside. The consequence is, that perspiration ceases, because internal heat is the sole cause of this important evacuation; and a settled fever takes place, which will continue as long as the cold keeps the upper hand. My experience has taught me that by giving hot medicine, the internal heat was increased, and by applying the steam externally, the natural perspiration was restored; and by giving medicine to clear the stomach and bowels from canker, till the cold is driven out and the heat returns, which is the turn of the fever, they

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will recover the digestive powers, so that food will keep the heat which belongs, which is the fuel that continues the fire or life of man.

Necessity now Compelled a Course of Medication in His Own Home.

At the birth of our third son, my wife was again given over by Soen after the child was born, she was taken with ague fits and stomach; she was in great pain, and we were much alarmed at her supposed giving her some medicines, but the midwife was much opposed said she wished to have a doctor, and the sooner the better. I immediately, and tried to persuade her to give something which I thought would be of the dangerous situation my wife was in, for not one out of twenty it, and probably she would not be alive in twenty-four hours from it were thus kept in suspense until the man returned and the doctor could and there was no other within six miles. I then came to the determination to no one's advice any longer, but to pursue my own plan. I told as the midwife said she could not live more than twenty-four hours, not be cut short more than that time, therefore there would be no help what I could do to relieve her. I gave her some warm medicine to raise heat, and then applied the steam, which was very much opposed by but I persisted in it according to the best of my judgment, and relieved one hour, after she had laid in that situation above four hours, was being done. The midwife expressed a great deal of astonishment as she had met with, and said that I had saved her life, for she was certain the means I had used, she could not have lived. She continued to soon recovered. This makes the fifth time I had applied to the mother for assistance, and in all of them was completely successful.

Beginning of Neighborhood Calls in Home Treatment.

These things began to be taken some notice of about this time, and conversation in the neighborhood. My assistance was called for by neighbors, and I attended several cases with good success. I had part time, paid some attention to the farrier business, and had been useful. This, however, gave occasion for the ignorant and credulous to ridicule laugh at those whom I attended; but these things had little weight as I had no other object in view but to be serviceable to my fellow creatures too firmly fixed in my determination to pursue that course, which I pointed out as my duty, by the experience and many hard trials I had deterred by the foolish remarks of the envious or malicious part of society.

Successfully Treated His Own Family for Measles.

Sometime in the month of November, 1802, my children had the measles, some of them had them very bad. The want of knowing how to treat me a great deal of trouble, much more than it would at the present time since I have taught me that they are very easy to manage. One of the children had the disease and gave it to the rest, and I think we had four down with the same time. My third son had the disorder very bad; they would not turn in, and he became stupid. The canker was much in the throat.

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and the rosemary would have no effect. Putrid symptoms made their appearance, and I was under the necessity of inventing something for that, and for the canker. I used the steam of vinegar to guard against putrefaction, and gold thread, or yellow root, with red oak acorns pounded and steeped together, for the canker. These had the desired effect; and by close attention he soon got better.

Small Pox "A Looking Glass in which We May See the Nature of Every Other Disease."
"The Same Means that will Put Out a Large Fire will Put Out a Candle."

This experience enabled me to relieve many others in this disease, and likewise in the canker-rash; in these two disorders, and the small pox, I found a looking-glass, in which we may see the nature of every other disease. I had the small pox in the year 1793, and examined its symptoms with all the skill I was capable of, to ascertain the nature of the disease; and found that it was the highest stage of canker and putrefaction that the human system was capable of receiving; the measles the next, and the canker-rash the third; and other disorders partake more or less of the same, which I am satisfied is a key to the whole; for by knowing how to cure this, is a general rule to know how to cure all other cases; as the same means that will put out a large fire will put out a candle.

Comments on Simple Medication Contrasted with "Fashionable Treatment."

Soon after my family had got well of the measles, I was sent for to see a woman by the name of Redding, in the neighborhood. She had been for many years afflicted with the cholic, and could get no relief from the doctors. I attended her and found the disorder was caused by canker, and pursued the plan that my former experience had taught me, which relieved her from the pain, and so far removed the cause that she never had another attack of the disease. In this case the cure was so simply and easily performed, that it became a subject of ridicule, for when she was asked about it, she was ashamed to say that I cured her. The popular practice of the physicians had so much influence on the minds of the people, that they thought nothing could be right but what was done by them. I attended in this family for several years, and always answered the desired purpose; but my practice was so simple, that it was not worthy of notice, and being dissatisfied with the treatment I received, I refused to do any thing more for them. After this they employed the more fashionable practitioners, who were ready enough to make the most of a job, and they had sickness and expense enough to satisfy them, for one of the sons was soon after taken sick and was given over by the doctor, who left him to die; but after he left off giving him medicine he got well of himself, and the doctor not only had the credit of it, but for this job and one other similar, his charges amounted to over one hundred dollars. This satisfied me of the foolishness of the people, whose prejudices are always in favor of any thing that is fashionable, or that is done by those who profess great learning; and prefer long sickness and great expense, if done in this way, to a simple and natural relief, with a trifling expense.

A Typical Case.

Soon after this, I was called on to attend a Mrs. Wetherbee, in the neighborhood, who had the same disorder (measles). She had been afflicted with the cholic for several years, having periodical turns of it about once a month; had been under the care of a number of doctors, who had used all their skill without affording her

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any relief, excepting a temporary one by stupefying her with opium and giving physic, which kept her along till nature could wear it off, when she would get a little better for a few days, and then have another turn. After hearing of my curing Mrs. Redding, they sent for me; I gave her my medicine to remove the canker, and steamed her, which gave relief in one hour. She had a very large family to attend to, having thirteen children, and before she had recovered her strength she exposed herself and had another turn; I attended again and relieved her in the same manner as before; but she could not wait till she gained her strength, and exposed herself again as before, took cold and had another turn. Her husband said I only relieved her for the time, but did not remove the cause, and being dissatisfied with what I had done, he sent for a doctor to remove the cause; who carried her through a course of physic, and reduced her so low, that she lingered along for eight weeks, being unable to do any thing the whole time; they then decided that she had the consumption, and gave her over to die. After the doctors had left her in this situation as incurable, she applied again to me; but I declined doing any thing for her, as I knew her case was much more difficult than it was before she applied to the doctor, and if I should fail in curing her, the blame would all be laid to me, or if she got well I should get no credit for it; for which reason I felt very unwilling to do any thing for her. After finishing my forenoon's work, on going home to dinner, I found her at my house, waiting for me, and she insisted so much upon my undertaking to cure her, and seemed to have so much faith in my being able to do it, that I at last told her, if she would come to my house and stay with my wife, who was sick at the time, I would do the best I could to cure her. She readily consented, and staid but three days with us; during which time I pursued my usual plan of treatment, giving her things to remove the canker, and steaming to produce a natural perspiration; at the end of the three days she went home, taking with her some medicine, with directions what to do for herself, and in a short time entirely recovered her health.

Another Case in which the Prevailing "Fashionable" Methods of that Date are Described.

In about a year after the above case, one of this family, a young man about sixteen years old, was attacked with a fever; the doctor was sent for, who followed the fashionable course of practice, and reduced him with mercury and other poisons, so that he lingered along for three or four months, constantly growing worse, till the doctor said it was a rheumatic fever, and afterwards that he was in a decline. He had taken so much mercury that it had settled in his back and hips, and was so stiff that he could not bring his hands lower than to his knees. By this time, the doctor had given him over as incurable, and he was considered a fit subject for me to undertake with. They applied to me, and I agreed to take him home to my house, and do the best I could to cure him. It was a difficult task, for I had in the first place to bring him back to the same situation he was in when he had the fever, and to destroy the effects of the poison, and regulate the system by steaming, to produce a natural perspiration; by pursuing this plan, and giving such things as I could get to restore the digestive powers, in two months he was completely restored to health; for which I received but five dollars, and this was more grudgingly paid than if they had given a doctor fifty, without doing any good at all.

Thomson Decides to Either Give Up Practice or Make Medicine His Business.

I began to be sent for by the people of this part of the country so much, that I found it impossible to attend to my farm and family as I ought; for the cases I had

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attended, I had received very little or nothing, not enough to compensate me for my time; and I found it to be my duty to give up practice altogether, or to make a business of it. I consulted with my wife and asked the advice of my friends, what was best for me to do; they all agreed, that as it seemed to be the natural turn of my mind, if I thought myself capable of such an important undertaking, it would be best to let my own judgment govern me, and to do as I thought best. I maturely weighed the matter in my mind, and viewed it as the greatest trust that any one could engage in. I considered my want of learning and my ignorance of mankind, which almost discouraged me from the undertaking; yet I had a strong inclination for the practice, of which it seemed impossible to divest my mind; and I had always had a very strong aversion to working on a farm, as every thing of the kind appeared to me to be a burthen; the reason of which I could not account for, as I had carried on the business to good advantage, and had as good a farm as any in the neighborhood. I finally concluded to make use of that gift which I thought nature, or the God of nature, had implanted in me; and if I possessed such a gift, I had no need of learning, for no one can learn that gift. I thought of what St. Paul says in his epistle to the Corinthians, concerning the different gifts by the same spirit; one had the gift of prophecy; another, the gift of healing; another, the working of miracles. I am satisfied in my own mind, that every man is made and capacitated for some particular pursuit in life, in which, if he engages, he will be more useful than he would if he happens to be so unfortunate as to follow a calling or profession, that was not congenial to his disposition. This is a very important consideration for parents, not to make their sons learn trades or professions, which are contrary to their inclinations and the natural turn of their minds; for it is certain if they do, they never can be useful or happy in following them.

Questions whether He would have been More Useful, With or Without a Systematic Medical Education.

I am convinced myself that I possess a gift in healing the sick, because of the extraordinary success I have met with, and the protection and support I have been afforded, against the attacks of all my enemies. Whether I should have been more useful had it been my lot to have had an education, and learned the profession in the fashionable way, is impossible for me to say with certainty; probably I should have been deemed more honorable in the world; but honor obtained by learning, without a natural gift, or capacity, can never, in my opinion, make a man very useful to his fellow-creatures. I wish my readers to understand me, that I do not mean to convey the idea, that learning is not necessary and essential in obtaining a proper knowledge of any profession or art; but that going to college will make a wise man of a fool, is what I am ready to deny; or that a man cannot be useful and even great in a profession, or in the arts and sciences, without a classical education, is what I think no one will have the hardihood to attempt to support, as it is contrary to reason and common sense. We have many examples of some of the greatest philosophers, physicians, and divines the world ever knew, who were entirely self-taught; and who have done more honor, and been greater ornaments to society, than a million of those who have nothing to recommend them but having their heads crammed with learning, without sense enough to apply it to any great or useful purpose.

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Arrogance of Those Practicing the "Fashionable" Mode of Disease Treatment

Among the practising physicians, I have found, and I believe it to be a known fact, that those who are really great in the profession, and have the most experience, condemn as much as I do, the fashionable mode of practice of the present day, and use very little medical poisons, confining themselves in the treatment of patients to simples principally, and the use of such things as vegetable diet, digestion and aid nature; and many of them disapprove of bleeding. Those of this description, with whom I have had an opportunity to converse, have treated me with all due attention and civility; have heard me with pleasure, and been ready to allow me credit for my experience, and the discoveries I have made in curing disease. The opposition and abuse that I have met with, have been from those to whom I think I can with propriety, give the name of ignorant pretenders; as all their merit consists in their self-importance and their behaviour towards all those who have not had the advantages of learned degrees at college.

Contents that His Antagonists were Aggressive because he Cured Cases They Could Not Relieve.

This class comprises a large proportion of the medical faculty throughout the country; they have learned just enough to know how to deceive the people, and keep them in ignorance, by covering their doings under an unknown name. Their medical works are kept in a dead language, except it be to deceive an ignorant world ignorant of their doings, that they may the better impose upon the people; for if they were to be written in our own language, every one would understand them, and judge for themselves; and their poisonous drugs thrown into the fire before their patients would take them. The ill-treatment I have received from them, has been mostly where I have exposed their errors by curing those they had given over to die; in which cases they have shown malice by circulating all kinds of false and ridiculous reports of me and my practice in order to destroy my credit with the people.

Decides to Formulate and then to Teach His "System" to Others.

After I had come to the determination to make a business of the medical practice, I found it necessary to fix upon some system or plan for my future conduct in the treatment of disease; for what I had done had been as it were from necessity arising out of the particular cases that came under my hands, and not any fixed plan; in which I had been governed by my judgment and the advantages I had received from experience. I deemed it necessary, not to have my own guide, but that whatever discoveries I should make in my practice, should be so adapted to my plan that my whole system might be easily taught and preserved for the benefit of the world. I had no other assistance than my own observations, and the natural reflections of my own mind, unaided by the opinions of others. I took nature for my guide, and experience as my teacher, and after seriously considering every part of the subject, I came to conclusions concerning disease, and the whole animal economy, which more than twenty years experience has perfectly satisfied me is the only correct theory.

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Thomson Formulates His "System," in which were Devised his Famous Remedies by Number.

I found, after maturely considering the subject, that all animal bodies are formed of the four elements, earth, air, fire, and water. Earth and water constitute the solids, and air and fire, or heat, are the cause of life and motion. That cold, or lessening the power of heat, is the cause of all disease; that to restore heat to its natural state, was the only way by which health could be produced; and that, after restoring the natural heat, by clearing the system of all obstructions and causing a natural perspiration, the stomach would digest the food taken into it, by which means the whole body is nourished and invigorated, and heat or nature is enabled to hold its supremacy; that the constitutions of all mankind being essentially the same, and differing only in the different temperament of the same materials of which they are composed; it appeared clearly to my mind, that all disease proceeded from one general cause, and might be cured by one general remedy; that a state of perfect health arises from a due balance or temperature of the four elements; but if it is by any means destroyed, the body is more or less disordered. And when this is the case, there is always an actual diminution or absence of the element of fire, or heat; and in proportion to this diminution or absence, the body is affected by its opposite, which is cold. And I found that all disorders which the human family were afflicted with, however various the symptoms, and different the names by which they are called, arise directly from obstructed perspiration, which is always caused by cold, or want of heat; for if there is a natural heat, it is impossible but that there must be a natural perspiration.

No. 1. Seeking a General Remedy to "Increase the Internal Heat, Remove all Obstructions of the System, Restore the Digestive Powers of the Stomach, and Produce a Rational Perspiration, Selects Emetic Herb (Lobelia), but it was Found Inadequate. It was Like a "Fire Made of Shavings."

Having fixed upon these general principles, as the only solid foundation upon which a correct and true understanding of the subject can be founded, my next business was to ascertain what kinds of medicine and treatment would best answer the purpose in conformity to this universal plan of curing disease; for it must, I think, be certain and self-evident to every one, that whatever will increase the internal heat, remove all obstructions of the system, restore the digestive powers of the stomach, and produce a natural perspiration, is universally applicable in all cases of disease, and therefore may be considered as a general remedy.

No. 1.^o

The first and most important consideration was to find a medicine that would establish a natural internal heat, so as to give nature its proper command. My emetic herb, (No. 1,) I found would effectually cleanse the stomach, and would very effectually aid in raising the heat and promoting perspiration; but would not hold it long enough to effect the desired object, so but that the cold would return again and assume its power. It was like a fire made of shavings; a strong heat for a short time, and then all go out.

^o Thomson's Famous Remedies, by number: No. 1, Emetics (Lobelia, typical); No. 2, Stimulants (Capsicum, typical); No. 3, Astringents (Bayberry, typical); No. 4, Bitters (Balmoney, typical); No. 5, Restorative Tonics (Peach, typical); No. 6, Antiseptics (Myrrh, typical). Thomson's *Compound Tincture of Myrrh and Capsicum* became celebrated as "Number 6."

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No. 2. The Medicine Fixed Upon to increase the Internal Heat was Capsicum.

After much experience and trying every thing within my knowledge, to gain this important point, I fixed upon the medicine which I have called No. 2, in my patent, for that purpose; and after using it for many years, I am perfectly convinced that it is the best thing that can be made use of to hold the heat in the stomach until the system can be cleared of obstructions, so as to produce a natural digestion of the food, which will nourish the body, establish perspiration and restore the health of the patient. I found it to be perfectly safe in all cases, and never knew any bad effects from administering it.

No. 3. Bayberry Root, combined with White Pond Lily Root Preferred. In Case the Pond Lily can not be Obtained, Hemlock, Marsh Rosemary, Sumach, Witch Hazel, Red Raspberry Leaves, or Black Cohosh may be Substituted. (Subsequently, these Remedies by Number were Continued to 6. See footnote, page 15.)

My next grand object was to get something that would clear the stomach and bowels from canker, which are more or less affected by it in all cases of disease to which the human family are subject. Canker and putrefaction are caused by cold, or want of heat; for whenever any part of the body is so affected by cold as to overpower the natural heat, putrefaction commences, and if not checked by medicine, or if the natural constitution is not strong enough to overcome its progress, it will communicate to the blood, when death will end the contest between heat and cold, by deciding in favor of the latter. I have made use of a great many articles, which are useful in removing canker; but my preparation called No. 3, is the best for that purpose, that has come to my knowledge; though many other things may be made use of to good effect.

System of Treatment Summarized.

My general plan of treatment has been in all cases of disease, to cleanse the stomach by giving No. 1, and produce as great an internal heat as I could, by giving No. 2, and when necessary, made use of steaming, in which I have always found great benefit, especially in fevers; after this, I gave No. 3, to clear off the canker; and in all cases where patients had not previously become so far reduced as to have nothing to build upon, I have been successful in restoring them to health. I found that fever was a disturbed state of the heat, or more properly, that it was caused by the efforts which nature makes to throw off disease, and therefore ought to be aided in its cause, and treated as a friend; and not as an enemy, as is the practice of the physicians. In all cases of disease, I have found that there is more or less fever, according to the state of the system; but that all fevers proceed from the same cause, differing only in the symptoms; and may be managed and brought to a crisis with much less trouble than is generally considered practicable, by increasing the internal heat, till the cold is driven out, which is the cause of it. Thus keeping the fountain above the stream, and every thing will take its natural course.

After making Reports of a Number of "Cases" Treated, comes an Intimation of Trouble with the "Fashionable Doctors."

Notwithstanding this desperate case was cured, to the astonishment of all who witnessed it, the doctors had so much influence over the people, and made so many false statements about it, that I got no credit for the cure. This woman's brother had said that her husband wanted to kill her, or he would not have sent for me.

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Such kind of ingratitude was discouraging to me; but it did not prevent me from persevering in my duty.

A short time after the above case happened, that woman's brother, who made the speech about me, was taken very sick, with what was called the yellow fever, and sent for me. I attended him and asked him if he wanted to die. He said no; why do you ask that? I told him, that I should suppose from the speech he made about my being sent for to his sister, that he did, or he would not have sent for me, if he believed his own words. He said he thought differently now. I attended him through the day with my new practice. To sweat him, I took hemlock boughs, and put a hot stone in the middle of a large bunch of them, wrapping the whole in a cloth, and poured on hot water till I raised a lively steam, and then put one at his feet and another near his body. I gave him medicine to raise the inward heat, and for the canker; after attending him through the day, I went home; and on calling to see him the next morning, found his fever had turned, and he was quite comfortable, so that he was soon about his business.

Description of a "Case," chiefly of Interest as an Illustration of the Methods of Medication One Hundred Years Ago.

I was about this time sent for to see a child in Surry, a neighboring town, which was taken very sick, and was entirely stupid. I told the father of the child that it had the canker, and made use of my common mode of practice for that difficulty. Being sent for to go to Walpole, to see two young men who had been taken the day before with the prevailing fever, I left the child, with directions how to proceed with it. I then started for Walpole, and found the two young men violently attacked with the fever. They had a brother who had been attended by the doctor for above four weeks for the same disease, and was then just able to sit up. It was thought by all, the two that were attacked last, were as violently taken as the other was; and they expressed a strong wish, that they might be cured without so long a run as their brother had. I was as anxious as they were to have a short job, and exerted all my powers to relieve them, which I was enabled to do that night, and left them in the morning quite comfortable, so that they were soon able to attend to their work. The brother who had the doctor, was unable to do any thing for several months. The doctor was paid a heavy bill for his visits; but my cure was done so quick, that it was thought not to be worthy of their notice, and I never received a cent from them for my trouble. On returning to the child that I had left the day before, I found that the doctor had been there and told them that I did not know what was the matter with the child; and had persuaded them to give him the care of it. He filled it with mercury and run it down; after having given as much mercury inside as nature could move, and the bowels grew silent, he then rubbed mercurial ointment on the bowels as long as it had any effect; after which he agreed that the child had the canker very badly; but he still persisted in the same course till the child wasted away and died, in about two months after it was first taken sick. After the child was dead, its parents were willing to allow that I understood the disorder best. The doctor got twenty-five dollars for killing the child by inches, and I got nothing.

A Journey, during which a Number of "Cases" were Treated. One being of "Cancer" again illustrates the "Fashionable Methods" of Medication in Thomson's Day.

After returning home, I was sent for to attend a woman in the neighborhood, who had been under the care of a celebrated doctor, for a cancer in her breast. He had tortured her with his caustics, till her breast was burnt through to the

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bone; and by its corrosive nature, had caused the cords to draw up into knots; he had likewise burnt her leg to the cords. She had been under his care eleven weeks; until she was much wasted away, and her strength nearly gone. In this situation the doctor was willing to get her off his hands, and wished me to take charge of her. After some hesitation, I consented, and attended her three weeks, in which time I healed up her sores, and cleared her of the humor so effectually, that she has ever since enjoyed good health.

Illustrative of Thomson's Aggressive Sarcasm.

I attended the funeral of a young man, one of his patients, who was sick but twenty-four hours, and but twelve under the operation of his medicine. He was as black as a blackberry, and swelled so as to be difficult to screw down the lid of the coffin; when I went into the room where the corpse was, the doctor followed me, and gave directions to have the coffin secured so as to prevent the corpse from being seen; and then began to insult me, to attract the attention of the people. He said to me, I understand, sir, that you have a patent to cure such disorders as that, pointing to the corpse. I said no, and at the same time intimated what I thought of him. He put on an air of great importance, and said to me, what can you know about medicine? You have no learning; you can not parse one sentence in grammar. I told him I never knew that grammar was made use of as medicine; but if a portion of grammar is so much like the operation of ratsbane, as appears on this corpse, I should never wish to know the use of it. This unexpected application of the meaning of what he said, displeased the medical gentleman very much; and finding that many of the people present had the same opinion that I had, it irritated him so much, that he threatened to horsewhip me; but I told him that he might do what he pleased to me, provided he did not poison me with his grammar. He did not attempt to carry his threat into execution, so I have escaped his whip and his poison; but the people were justly punished for their ingratitude and folly, in preferring death and misery, because it was done more fashionably, to a mode of practice by which they might relieve themselves in a simple and safe manner.

A Journey to New York to Study Yellow Fever.

In the spring of the year 1806, I came to a determination to go to New York, for the purpose of ascertaining the nature of the yellow fever, having been impressed with the idea, that this disease was similar to that which had been prevalent in different parts of the country, only differing in causes which were local.

On my arrival, I looked round to find a place to board, and took up my lodgings with a Mr. Kavanagh, an Irishman, and a Roman Catholic. After spending some time in viewing the city, I applied to the Mayor of the city, and to the Board of Health, to ascertain whether I could have an opportunity to try the effect of my medicine and system of practice on the prevailing fever. They told me that I could; but that I could get no pay for it by law. I went to see Doctor Miller, who was then President of the Board of Health, and had some conversation with him upon the subject. He told me the same as the Mayor had, and inquired of me in what manner I expected to give relief; I told him my plan was to cause perspiration. He said if I could cause them to sweat, he thought there was a good chance to effect a cure.

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Stricken with Yellow Fever, Thomson Takes a Course in His Own "System."

After spending several days in New York, I went to West Chester Creek to procure some medicine. I thought that I was going to have the yellow fever, for I felt all the symptoms, as I thought, of that disease; my strength was nearly gone, my eyes were yellow, and a noise in my head; my tongue was black, and what passed my bowels was like tar. I was among strangers, and had little money; I went to the house of a Quaker woman, and asked to let me stay with her that day; she gave her consent. Had but little medicine with me, and could find nothing that I could relish but salt and vinegar; I used about half a pint of salt, and double that quantity of vinegar, which gave me relief, and I gained so much strength, that the next day I was able to return to the city of New York. On my arrival there, I was so weak that it was with the greatest difficulty I could walk to my boarding house, which was about forty rods from the place where we landed. I immediately took Nos. 2 and 3, steeped, and No. 4; in a short time, I began to have an appetite; the first food that I took was a piece of smoked salmon, and some ripe peach sauce. I soon recovered my strength and was able to be about. This satisfied me that I had formed a correct idea of this fatal disease; that it was the consequence of losing the inward heat of the body, and bringing it to a balance with the surrounding air; and the only method by which a cure can be effected, is by giving such medicine as will increase the fever or inward heat to such a degree as to get the determining power to the surface, by which means perspiration will take place, and which is called the turn of the fever; if this is not accomplished either by medicine, or by nature being sufficient to overcome the disease, mortification will be as certain a consequence as it would be if a person was strangled. The reason why they lose their strength in so short a time, is because it depends wholly upon the power of inward heat; and as much as they lose of that, so much they lose of their strength and activity.

An Advocate of Pure and Good Food, thus Anticipating the Government Crusade Nearly a Century Later.

I will here make a few remarks upon the food taken into the stomach, which is of the utmost importance to the preservation of health. While I was in New York, I took particular notice of their manner of living; and observed that they subsisted principally upon fresh provisions, more particularly the poorer class of people; who are in the habit in warm weather of going to market at a late hour of the day, and purchasing fresh meat that is almost in a putrid state, having frequently been killed the night previous, and being badly cooked, by taking it into the stomach, will produce certain disease; and I am convinced that this is one of the greatest causes that those fatal epidemics prevail in the hot season, in our large seaports. Mutton and lamb is often drove a great distance from the country, and having been heated and fatigued, then are cooled suddenly, which causes the fat to turn to water; and often when killed, are in almost a putrid state, and the meat is soft and flabby. Such meat as this, when brought into the market on a hot day, will turn green under the kidneys in two or three hours, and taken into the stomach will putrify before it digests, and will communicate the same to the stomach, and the whole body will be so affected by it, as to cause disorders of the worst kind. If people would get into the practice of eating salt provisions in hot weather, and fresh in cold, it would be a very great preventive of disease. One ounce of putrid flesh in the stomach is worse than the effect

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produced by a whole carcass on the air by its effluvia. Much more on upon this important subject; but I shall defer it for the present, and more upon it in another part of the work. It is a subject that has been neglected by our health officers in this country.

Illustrative of Thomson's Methods of Procuring Remedies.

In November, I went to Plum Island to collect medicine; on my way on Joseph Hale, Esq., of Pepperell, and engaged him to come down with me in about three weeks, to bring back what medicine I should collect. the way of Newburyport; and after being on the Island three or four days such roots as I wanted and returned to that place.

Introducing Dr. French. The Beginning of Thomson's Persecution, or Prosecution. Looks at the Matter.

While there, being in a store in conversation with some persons in a man from Salisbury mills, by the name of Osgood, who stated very unwell, and that his wife lay at the point of death, with the lungs she had been attended by Dr. French, who had given her over. One of the men standing by, told him that I was a doctor, and used the medicine of this country. He asked me if I would go home with him, and see his wife waiting for Mr. Hale, and had nothing to do, I told him I would, and immediately started in the chaise for his home, which was about six miles. On arrival, he introduced me to his wife as a doctor who made use of the medicine of our country; and asked her if she was willing that I should undertake her. She said if I thought that I could help her she had no objection. I gave her my opinion that I could, and undertook, though with some reluctance, as an strange place, and no one that I knew. I proceeded with her in my practice, and in about fourteen hours her fever turned, and she was comfortable, and soon got about.

This cure caused considerable talk among the people in the neighborhood, and thought very favorably of me and my practice; but it soon came to the ears of Dr. French, who was very much enraged to think one of his patients, given over, should be cured by one whom he called a quack; and he endeavored to counteract the public impression in my favor, by circulating a report that the woman was getting better, and sat up the greatest part of the day; but this was denied by the woman's husband, and known by many.

While I remained in this place, waiting for Mr. Hale to come down in a wagon to carry home my medicine, I was called on to attend several persons of which I was very successful; most of them were such as had been given over by the doctors. One of them was the case of a young man, who had his fingers very badly, so as to lay open the joints. Dr. French had given him over, and they had got so bad that he advised him to have the amputation the only alternative. The young man applied to me for advice. I told him that in his situation, I should not be willing to have them cut off till I had some further trial to cure them without. He requested me to undertake him, to which I consented and began by clearing the wound of mercury with weak lye; I then put on some drops, and did it up with a band which was kept wet with cold water. While I was dressing the wound, a young man who was studying with Dr. French, came in and made a great fuss about me, saying that I was going to spoil his hand. I told him that I was

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for what I was doing, and that if he had any advice to offer I was ready to hear him; but he seemed to have nothing to offer except to find fault, and went off, after saying that Dr. French's bill must be paid very soon. I continued to dress his hand, and in ten days he was well enough to attend to his work, being employed in a nail factory. Soon after, I saw him there at work, and asked him how his fingers did; he said they were perfectly cured; he wished to know what my bill was for attending him. I asked him what Dr. French had charged, and he said he had sent his bill to his mother, amounting to seventeen dollars; I told him I thought that enough for us both, and I should charge him nothing.

After a Number of Journeys, in which his "System" was Used Continually, Thomson again Meets Dr. French.

After stopping at Pelham three weeks, in which time I had as much practice as I could attend to, I went to Salisbury Mills, where I was very cordially welcomed by all those who had been attended by me the season before. I was called on to practise in this place and Newburyport, and my success was so great that it caused much alarm among the doctors, and a class of the people who were their friends, who did all they could to injure me, and destroy my credit with the people. A considerable part of the patients, who were put under my care, were such as the doctors had given over, and those being cured by me, had a tendency to open the eyes of the people, and give them a correct understanding of the nature of their practice, and convince them that a simple and speedy cure was more for their interest and comfort, than long sickness, pain, and distress; besides having to pay exorbitant doctors' bills, for useless visits and poisonous drugs, which had no other effect than to prolong disease, and destroy the natural constitution of the patient.

Among those doctors who seemed so much enraged against me, for no other reason that I could learn, than because I had cured people whom they had given over, and instructed them to assist themselves when sick, without having to apply to them; there was none that made themselves so conspicuous as Dr. French. I had considerable practice in his neighborhood, and was very successful in every case; this seemed to excite his malice against me to the greatest pitch; he made use of every means in his power, and took every opportunity to insult and abuse me both to my face and behind my back. A few of the inhabitants who were his friends, joined with him, and became his instruments to injure me; but a large proportion of the people were friendly to me, and took great interest in my safety and success. The doctor and his adherents spread all kinds of ridiculous reports concerning me and my practice, giving me the name of the old wizzard; and that my cures were done under the power of witchcraft. This foolish whim was too ridiculous for me to undertake to contradict, and I therefore rather favored it merely for sport; many remarkable circumstances took place tending to strengthen this belief, and some of the silly and weak-minded people really believed that I possessed supernatural powers. This will not appear so strange, when we take into view, that the people generally were ignorant of my system of practice, and when they found that I could cure those diseases that the doctors, in whom they had been in the habit of putting all their confidence, pronounced as incurable; and that I could turn a fever in two days, which would often take them as many months, they were led to believe that there was something supernatural in it.

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Thomson Becomes Aggressively Sarcastic.

A man who was one of the friends of Dr. French, and who had been very inimical to me, doing all in his power to injure and ridicule me, sent word one day by a child, that his calf was sick, and he wanted me to come and give it a green powder and a sweat. Knowing that his object was to insult, I returned for answer, that he must send for Dr. French, and if he could not cure it, I would come, for that was the way that I had to practise here.

After a Journey, and a Rest at Home, Thomson Again Invades the Territory of Dr. French, who Prepares for Him a Trap.

In the year of 1808, I went again to Salisbury, and on my way there, stopped at Pelham, and attended and gave relief in several cases of disease. On my arrival at Salisbury Mills, where I made it my home, I was immediately called on to practise in that place and the adjacent towns. Many came to me from different parts, whose cases were desperate, having been given over by the doctors, such as humors, dropsies, mortifications, fellons, consumptions, &c. Fevers were so quickly cured, and with so little trouble, that many were unwilling to believe they had the disease. My success was so great, that the people generally were satisfied of the superiority of my mode of practice over all others. This created considerable alarm with the doctors, and those who sided with them. Dr. French seemed to be much enraged, and having failed to destroy my credit with the people by false reports, and ridiculous statements of witchcraft, shifted his course of proceeding, and attempted to frighten me by threats, which only tended to show the malice he bore me; for no other reason, that I could conceive of, as I had never spoken to him, than because of my success in relieving those he had given over to die. He would frequently cause me to be sent for in great haste to attend some one in his neighborhood, who was stated to be very sick; but I saw through these tricks, and avoided all their snares. It seemed to be his determination, if he failed in destroying my practice, to destroy me. Being in company one day at Salisbury village, with Mr. Jeremiah Eaton, of Exeter, whose wife was under my care for a dropsical complaint, I was sent for four times to visit a young man at the house of Dr. French; the last time, a man came on horseback in the greatest haste, and insisted that I should go and see him. I asked why Dr. French did not attend him; he answered that he had rather have me. Being convinced, from the appearance of things, that it was an attempt to put some trick upon me, I refused to go, and the man returned. In a short time after, Dr. French came into the village, and Mr. Eaton, who was present when they came after me, asked him what ailed the young man at his house; he said nothing, but that he was as well as anybody. This revealed the whole secret. Mr. Eaton then asked him why he caused me to be sent for so many times, under a false pretence. He said to see if I dared to come into his neighborhood; that he did not care how much I practised on that side of the river; but if I came on his, he would blow my brains out; that I was a murderer, and he could prove it. Mr. Eaton observed that it was a heavy accusation to make against a man, and that he ought to be made to prove his words, or to suffer the consequence; that his wife was under my care, and if I was a murderer, he ought to see to it. Dr. French again repeated the words, with many threats against me, and showed the spite and malice of a savage.

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Thomson has Dr. French Arrested, Wins His Case, and Resumes His Practice.

Mr. Eaton and others of my friends considered my life in danger; and came immediately to me and related what had been said by the doctor; and advised me to be on my guard. I had to pass his house every day to visit my patients; but did not consider myself safe in going in the night, nor in the day time without some one with me. I continued in this manner for several days, and finding his malice towards me to be as great as ever, and still continuing his threats; with the advice of my friends, I was induced to have resort to the law for protection. I went to Newburyport and entered a complaint against him before a magistrate, who granted a warrant, and he was brought before him for a trial. My case was made out by fully proving his words; he asked for an adjournment for three hours to make his defence, which was granted. He then brought forward evidence in support of his character, and proved by them that he had always been a man of his word. The Justice told him that he thought he proved too much, and to his disadvantage, for it had been fully proved that he had made the threats alleged against him, and to prove that he was a man of his word, went to satisfy the court that the complaint was well grounded. He was laid under two hundred dollars bonds to keep the peace and appear at the next court of common pleas. He appeared at the next court, was ordered to pay all the cost, and was discharged from his bail. This was an end of our controversy for that time; but his malice continued against me long after; seeking every means to destroy me and prevent my practising, that he could devise; but proceeded with more caution, which caused me a great deal of trouble and much suffering, as will be hereafter related.

I continued to practise in this place, and had as many patients as I could possibly attend upon, notwithstanding the opposition I constantly met with from the doctors and their friends; for with all their arts and falsehoods they were not able to prevent those laboring under complaints, which they had found could not be removed by the fashionable mode of treatment, from applying to me for relief; none of whom but what were either cured or received great relief by the practice. Some of the most extraordinary cases I shall give a particular account of for the information of the reader.

Dr. French Seeks Revenge.

Previously to my difficulty with Dr. French, as has been before mentioned, Mrs. Eaton and another woman by the name of Lifford, came to me at Salisbury Mills from Exeter. Their complaint was dropsy; and were both desperate cases, having been given over by the doctor who had attended them. Mrs. Eaton was swelled to such a degree, that she could not see her knees as she sat in a chair, and her limbs in proportion. I felt unwilling to undertake with them, as I considered there would be but little chance of a cure; and declined doing any thing for them, and sent them away, stating that there was no place that they could get boarded. They went away as I supposed to go home; but they soon returned, and said they had found a place where they could stay, and a young woman had agreed to nurse them. I undertook with them very reluctantly; but could not well avoid it. I gave them some medicine, and it operated favorably on both, especially on Mrs. Lifford; then gave strict orders to the nurse, to attend them attentively through the night, and keep up a perspiration; but she almost totally neglected her duty, spending her time with the young people. On visiting them in the morning I was very much hurt to find my directions neglected. Mrs. Lifford

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was quite poorly; and stated to me that the nurse had neglected her feet out of bed; her perspiration had ceased and appeared unfavorable.

I attended upon her through the day and did all I could not raise a perspiration again. She continued till the night and died. My hopes of doing her any good were if she had not been neglected by the nurse, there might have been a chance for her, as the first operation of the medicine was given, the bowels were in a very bad state, and had been almost in a state of obstruction for three weeks, and what passed her was by force, and very bad.

This caused great triumph among my enemies, and Dr. Fennell, who was to many, and all that knew anything about it, cleared me from the nurse said that I did all I could, and if there was any blame for her and not on me. So they failed in their attempt to make me out but this case was laid up to be brought against me at another time.

Thomson Meditates on Contrasts.

This shows what may be done by the folly of people, and the wickedness of designing men, who care more for their own interests for the health and happiness of a whole community. The fashionable doctor may lose one-half his patients without being blamed; but if of several hundred of the most desperate cases, most of which were incurable, it is called murder.

In Dr. Shephard, Thomson at last Finds an Appreciative Physician Observer.

As soon as I could get the patients under my care in a situation to leave Salisbury Mills, and went to Exeter, and commenced practising in that way, and was applied to from all parts. I had not so many to attend in some places; but they were all of the most desperate nature, such as were given over by the doctors, in all of which I met with great success. Most cases had been attended by Dr. Shephard; he had attended with me patients at Salisbury; was a very plain, candid sort of a man, and treated with much civility. I well remember his first speech to me, which was the following words: "Well, what are you doing here, are you killing or curing people?" I replied, you must judge about that for yourself. "Well," said I, will watch you, not for fear of your doing harm, but for my own information and friendly, without any hypocrisy. He once called on me to visit with one of his patients in the town where he lived, who had the rheumatism in his back and hips. The doctor had attended him about two months, and said I killed the pain, but his back was stiff, so that he could not bring his hands to his knees. I attended him about forty-eight hours, and then went with him to the doctor, which was half a mile; the doctor appeared to be much pleased to see him so well, and have the use of his limbs; for he could stoop and use as well as he ever could. He said that he was as glad for the young man's recovery as though he had cured him himself. He frequently came to see Mrs. Eaton, who I was attending for the dropsy; and expressed much astonishment at the effect of the medicine I gave had in relieving her of a disease which he had considered incurable. At one time when conversing with her upon her situation, and finally

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her so much better, having been reduced in size above fifteen inches, he expressed himself with some warmth on the occasion, saying, that it was what he had never seen or heard of being done before, and what he had considered impossible to be done with medicine. Addressing himself to me with much earnestness, inquired how it was that I did it. I replied, you know doctor that the heat had gone out of the body, and the water had filled it up; and all I had to do was to build fire enough in the body to boil away the water. He burst into a laugh, and said that it was a system very short.

Again Illustrating "Fashionable" Medication of that Date, and Thomson's Opinion of Disease.

While practicing in Exeter, I had many desperate cases from the different parts of the country, and from Portsmouth. One from the latter place I shall mention, being different from what I had before witnessed. A woman applied to me who had the venereal, in consequence, as she stated, of having had a bad husband; which I believed to be true. She had been attended by the doctors in Portsmouth for nearly a year, who had filled her with mercury, for the purpose of curing the disorder till the remedy had become much worse than the disease. Her case was alarming, and very difficult; she was brought on a bed, being unable to sit up; and seemed to be one mass of putrefaction. I proceeded with her in my usual way of treating all cases where the system is greatly disordered, by giving medicine to promote perspiration, straining to throw out the mercury, and restore the digestive powers; and in three weeks she returned home entirely cured. Another woman came to me from the same place, who had been sick five years, which had been in consequence of having had the same disease, and the doctors had filled her with mercury to kill the disorder, as they called it, then left her to linger out a miserable existence. When she stated her case to me, I felt very unwilling to undertake with her, apprehending that it would be very uncertain whether a cure could be effected, having been of so long standing; but she insisted upon it so strongly, that I could not put her off. After attending upon her three weeks, however, her health was restored, and she returned home well; and in less than a year after, she had two children at one birth. She had not had a child for eight years before. This disease is very easily cured in the first stages of it, by a common course of medicine, being nothing more than a high stage of canker seated in the glands of certain parts of the body, and if not cured, communicates to the glands of the throat and other parts; by giving mercury, the whole system is completely disordered, and although the disease may disappear, it is not cured; and there is more difficulty in getting the mercury out of the body of one in this situation, than to cure a dozen of the disease who have not taken this dangerous poison.

The Medical Profession "Alarmed" and for the Second Time Charge Thomson with "Witchcraft."

While in Exeter, I had a case of a young man, son of Col. Nathaniel Gilman, who was in a decline. He was about fourteen years old, and had been troubled with bleeding at the nose. They had made use of such powerful astringents, with corrosive sublimate snuffed up his nose, that the blood vessels in that part seemed to be shrunk up, and his flesh much wasted away; I carried him through a course of medicine, and gave an equal circulation of blood through the body, and stopped its course to the head; then raised a natural perspiration, restored the digestive powers, and regulated the system, so as to support the body with food instead of

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medicine. In a short time he recovered his health so that he commanded a company of militia at the alarm at Portsmouth, during the late war.

My success while at this place, and the many extraordinary cures I performed, gained me great credit among the people; but the medical faculty became much alarmed, and made use of every artifice to prejudice them against me. The foolish stories about witchcraft, which had been made a handle of at Salisbury, were repeated here, with a thousand other ridiculous statements for the purpose of injuring me; but I treated them with contempt, as not worthy of my notice, except in some instances, to amuse myself with the credulity of the ignorant, who were foolish enough to believe such nonsense.

Thomson Invades the Territory of Dr. Manasseh Cutler. (See Bulletin, Lloyd Library No. VII, for Portrait and History of Cutler.) Again He Lays Up Trouble for Himself.

Some time towards the close of the summer, while I was at Exeter, I was sent for to go to Portsmouth to see a young man by the name of Lebell, who was in a very dangerous situation, supposed by his friends to be in a dying state, having been given over by Drs. Cutler and Pierpont, at ten o'clock that morning. I arrived about two in the afternoon. He had been attended by the two doctors above named for upwards of a month, to cure the venereal; they had filled him with mercury, so that he had swelled all over with the poison. The doctors pronounced it to be the dropsy. His legs had been scarified to let off the water; the disorder and the mercury had gained the power, and nature had submitted. I at once pronounced it to be a desperate case, and told the French Consul, who had the care of him, that I could give no encouragement that I could do him any good; but he was very solicitous for me to do something for him. I told him the only chance was to raise perspiration, and that twenty-four hours would determine his case; for he would either be better in that time, or be dead. The idea of perspiration caused him to urge me to try; and he said if I could effect it, he would give me one hundred dollars; the doctors had tried for a month, and could not succeed. I gave him some medicine, then put on the clothes by degrees, until he was shielded from the air, and he sweat freely in about an hour. The two doctors were present, and seemed astonished at my success; they walked the room, talked low, then went out. I staid with him till six o'clock, and the symptoms seemed to be favorable; he sweat profusely, and spit much blood. I told the nurse to keep him in the same situation till I returned; went out and was gone about an hour, and came back again with Mr. Underwood. When we came into the room, found that the doctors had taken him out of bed and sat him in a chair, and opened the window against him. I told them that their conduct would cause his death, and I would do no more for him; but should give him up as their patient.

It appeared to me that they were afraid I should cure him, and thus prove the superiority of my practice over theirs; for they had tried a month to get a perspiration, without success, and I had done it in one hour. The man fainted before I left the room. I went home with Mr. Underwood and staid that night, and left them to pursue their own course; the man died before morning. Instead of getting the hundred dollars, as was agreed, I never got a cent for all my trouble of coming fifteen miles, and returning back again on foot; and besides this loss, afterwards,—when I came to be persecuted by the faculty,—the above two doctors gave their depositions against me, in which I was informed they swore that I killed this man, notwithstanding they had given him over to die the

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morning before I saw him, and they had taken him out of my hands, as above stated. On being informed that they were trying to support a complaint against me, I got the depositions of Mr. Underwood and others, who were knowing to the facts, to contradict these false statements. On finding that I was determined to oppose them, and prove what they had sworn to be all false, they thought proper to drop the matter; but I was informed they had sworn that my medicine was of a poisonous nature, and if it did not cause the patient to vomit soon after being taken, they would certainly die. It is unnecessary for me to contradict this, for its incorrectness and absurdity is too well known to all who have any knowledge of the medicine I use.

After a number of Journeys is Called by a Man Who Heard that he, Thomson, "Sweat His Patients To Death." Description of Treatment.

I was frequently in Portsmouth to visit those who had been sent to me to be attended upon at Exeter. Sometime in September in 1808, when there, I was called on to visit Mr. Richard Rice, who was sick with the yellow fever, as it was called. The reason for his sending for me, was in consequence of having heard the reports of the doctors, that I sweat my patients to death. He conceived an idea that if he could sweat, he should be better; but they would not allow him to be kept warm, taking the clothes off of him, and keeping the windows and doors open; no fire was permitted in the room, while he was shivering with the cold. The plan was to kill the fever, and to effect this with more certainty, the doctor had bled him, and told his sister that he had given him as much ratsbane as he dared to give, and if that did not answer he did not know what would.

I began to give him medicine a little before night, and in one hour perspiration took place. He was so weak that he was unable to help himself. In the morning the doctor proposed to bleed him; but he was dismissed. I was with him till the symptoms were favorable, and then left him in the care of three persons whom I could confide in. After I was gone, Dr. Brackett came into the room where the patient was, in a great rage, saying that they were killing him; for the mortification would soon take place, in consequence of keeping him so warm. He was asked by one of those present, in which case mortification was most likely to take place, when the blood was cold and thick, or warm and thin. He suspected some quibble, and would not give an answer; and it was immaterial which way he answered; for in either case he had no grounds to support an argument upon, but what might be easily refuted. After he had failed in the interference with those who had the care of the patient, he went to his wife and other relations, and tried to frighten them; but he did not succeed, for they were well satisfied with what was doing.

The patient was much out by spells, sometimes imagining himself to be a lump of ice; but my directions were pursued by the person I left in charge of him during the night, keeping up a perspiration, in the morning he was much relieved, and had his right mind. He had no pain except in the lower part of the bowels; to relieve which he was very anxious that I should give him some physic. I opposed this, being confident that it would not do in such putrid cases. He was so urgent, however, I gave him some, which operated very soon; and the consequence was, that it reinforced his disorder, and threw him into the greatest distress. He asked for more physic, but I told him that I would not give him any more, for I was satisfied of the impropriety of giving it in such cases, and I have never given any since. It checked the perspiration, and drew the determining

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powers from the surface inward; so that I had to go through the same process again of raising perspiration, and vomiting, which was much more difficult than at first, and it was with the greatest attention that I was able to keep off the mortification for twelve hours that he was kept back by taking this small dose of physic. I kept up the perspiration through Friday and Saturday, and on Sunday morning when I called to see him, he was up and dressed. On asking how he did, he said as strong as you are, and took me under his arm and carried me across the room. On Monday he was down on the wharf attending to his business.

This cure caused considerable talk in the town, and because it was done so quick, the doctors said that there was but little ailed aim, and he would have got well himself if he had taken the physic and been left alone; but those who saw it were convinced to the contrary; others doubted, and said among themselves, how can a man, who has no learning, and never studied physic, know how to cure disease?

Outward and Inward Heat.

I continued to practise in Portsmouth and vicinity during this autumn, and while there, was sent for to go to Salisbury, to see a child that had been attended by a woman for several days, who I had given information to, but they said the perspiration would not hold; and they wished for further information. On seeing the child, I at once found that they had kept about an equal balance between the outward and inward heat; when they gave medicine to raise the inward heat and start the determining power to the surface, they at the same time kept the outward heat so high as to counteract it. After explaining to them the difficulty, I raised the child up and poured on to it a pint of cold vinegar, and it immediately revived. Applied no more outward heat, but only to shield it from the air; and gave the warmest medicine inward, on the operation of which, the child grew cold and very much distressed. As soon as the inward heat had gained the full power, and drove the cold out, the circulation became free, and the child was relieved from pain and fell asleep; the next day the heat was as much higher than what was natural, as it had been lower the day before; and when heat had gained the victory over cold, the child gained its strength and was soon about, perfectly recovered.

Again Trespasses on Territory of Dr. French, is Arrested, Fined and Reprimanded.

I had not practised in Salisbury before, since I went to Exeter, which was in June, and my returning there seemed to give Dr. French great offence. He had been to see the child mentioned above, and tried to discourage the people from using my medicine; and threatened them that he would have them indicted by the grand jury, if they made use of any without his consent; his threats, however, had very little effect, for the people were well satisfied of the superiority of my practice over his. About this time the bonds for his good behavior were out; I did not appear against him, and when the case was called, the court discharged him and his bail, on his paying the cost. The action was brought on a complaint in behalf of the Commonwealth; but I had caused another action of damage to be brought against him, which was carried to the Supreme Court, and tried at Ipswich the spring following. I employed two lawyers to manage my case, and brought forward two witnesses to prove my declaration, who swore that the defendant made the assertion, that I was guilty of murder and he could prove it. His lawyer admitted the fact, but pleaded justification on the part of his client,

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and brought witnesses on the stand to prove that what he had said was true. The young woman who nursed Mrs. Lifford, and by whose neglect she took cold, swore to some of the most ridiculous occurrences concerning the death of that woman, that could be uttered, which were perfectly contradictory to every thing she had before confessed to be the truth. Another young woman, the daughter of a doctor at Deerfield, made a statement, to make it appear that I was the cause of the death of the three children, who died as has been before related. I had no knowledge of ever seeing this woman, and have since ascertained that she was not at the house but once during the sickness, and then did not go into the room where the sick were; and her exaggerated account must have been made up of what she had heard others say.

These things were a complete surprise to me, not thinking it possible that people could be induced to make such exaggerated statements under the solemnity of an oath. I could have brought forward abundance of testimony to have contradicted the whole evidence against me if there was time, but not expecting that the cause would have taken the course it did, was unprepared. There appeared to be a complete combination of the professional craft against me, of both the doctors and lawyers, and a determination that I should lose the cause, let the evidence be what it might. My lawyers gave up the case without making a plea; and the judge gave a very partial charge to the jury, representing me in the worst point of view that he possibly could, saying that the evidence was sufficient to prove the facts against me, and that if I had been tried for my life, he could not say whether it would hang me or send me to the state prison for life. The jury of course gave their verdict against me, and I had to pay the cost of the court.

The counsel for Dr. French asked the judge whether a warrant ought not to be issued against me, and I be compelled to recognize to appear at the next court, to which he answered in the affirmative. This so frightened my friends, that they were much alarmed for my safety, and advised me to go out of the way of my enemies, for they seemed to be determined to destroy me. I went to Andover to the house of a friend, whose wife I had cured of a cancer, where I was very cordially received, and staid that night. The next day I went to Salisbury Mills, and made arrangements to pay the cost of my unfortunate lawsuit.

The Lovett Case, the Beginning of Thomson's Famous Trial.

While practising in Beverly, was called on by a Mr. Lovett, to attend his son, who was sick, as they supposed with a bad cold; some thought it a typhus fever. I was very much engaged in attending upon the sick at the time, and could not go with him; he came after me three times before I could go. On seeing him, found that he complained of a stiff neck, and appeared to be very stupid, and had no pain. His aunt, who took care of him, said that he would certainly die, for he had the same symptoms as his mother, who died a short time before. I gave some medicine which relieved him; the next day carried him through a course of the medicine, and he appeared to be doing well. Being called on to go to Salem, I left him in the care of Mr. Raymond, with particular directions to keep in the house and not expose himself. This was on Wednesday, and I heard nothing from him, and knew not but what he was doing well, till the Sunday afternoon following, when I was informed that he was worse. I immediately inquired of Mr. Raymond, and learned from him that he had got so much better, he had been down on the side of the water, and returned on Friday night; that the weather was very cold, being in the month of December; that he had been

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chilled with the cold, and soon after his return had been taken very ill; he staid with him on Saturday night, and that he was raving distracted all night; that he had not given any medicine, thinking he was too dangerously sick for him to undertake with.

I told the young man's father, that it was very doubtful whether I could do any thing that would help him; but that I would try, and do all I could. I found that the patient was so far gone that the medicine would have no effect, and in two hours told him that I could not help his son, and advised him to call some other advice; this was said in presence of Elder Williams, and Mr. Raymond. Mr. Lovett made answer that if I could not help his son, he knew of none who could; and was very desirous for me to stay with him all night, which I did, and stood by his bed the whole time. He was much deranged in his mind till morning, when he came to himself, and was quite sensible. I then again requested the father to send for some other doctor, as I was sensible that I could do nothing for him that would be of any benefit. He immediately sent for two doctors, and as soon as they arrived, I left him in their care. The two doctors attended him till the next night about ten o'clock, when he died. I have been more particular in giving the history of this case, because two years after it was brought as a charge against me for murdering this young man. The father and friends expressed no dissatisfaction at the time, in regard to my conduct, except they thought I ought not to have neglected the patient so long; but it was a well known fact, that I attended as soon as I knew of his being worse, and that the whole cause of his second attack was owing to his going out and exposing himself, and could not be imputed as any fault of mine.

After a Period of Practice in Various Localities, came Thomson's "Treatment" of Captain Trickey.

Some time this season I was sent for to attend Captain Trickey, who was very sick. I examined him and was confident that I could not help him, and took my hat in order to leave the house. His family insisted on my stopping and doing something for him; but I told them that I thought he was in a dying state, and medicine would do no good. I told his son that in all probability, he would not be alive over twenty-four hours, and that he had better go for some other help, for I could do him no good. I told the wife that I should give no medicine myself, but as they had some in the house that they knew the nature of, she might give some of it to her husband, which she did. Two doctors were sent for; the first one that arrived bled him, and he soon breathed very short, and grew worse; the other doctor came, and said that his breathing short was in consequence of the medicine I had given him; but by this he did not gain credit, for all the family knew to the contrary; and the woman soon after told me of his speech. The patient continued till the next day about ten o'clock, and died. Soon as he was dead, the doctors and their friends spared no pains to spread the report in every direction, that I had killed this man with my screw auger, a cant name given to my emetic herb, in consequence of one of my patients, when under the operation of it, saying that it twisted in him like a screw auger. This was readily seized upon by the doctors, and made use of for the purpose of trying to destroy the reputation of this medicine by ridicule. They likewise gave similar names to several other articles of my medicine, for the same purpose; and represented them as the names by which I called them. They had likewise given me several names and titles, by way of reproach; such as the sweating and steaming doctor; the Indian doctor; the old wiz-

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zard; and sometimes the quack. Such kind of management had a great effect on the minds of many weak minded people; they were so afraid of ridicule, that those whom I cured were unwilling to own it, for fear of being laughed at for employing me.

The circumstance of the death of the above mentioned Capt. Trickey, was seized upon by the doctors and their friends, and the most false and absurd representations made by them through the country, with the intention of stopping my practice, by getting me indicted for murder, or to drive me off; but my friends made out a correct statement of the facts, and had them published, which put a stop to their career for that time. I continued my practice, and had a great number of the most desperate cases, in most of which I was successful. The extraordinary cures I had performed, had the tendency to make many people believe, that I could cure every one who had life in them, let their disease be ever so bad; and where I had attended on those who were given over as incurable, and they died, whether I gave them any medicine or not, the report was immediately circulated that they were killed by me, at the same time the regular doctors would lose their patients every day, without there being any notice taken of it. When their patients died, if appearances were ever so much against their practice, it was said to be the will of the Lord, and submitted to without a murmur; but if one happened to die that I had any thing to do with, it was readily reported by those interested in destroying my credit with the people, that I killed them.

Arrest, Imprisonment and Trial. In this, but for the Testimony of Dr. Cutler, Thomson would Probably have Fared Much Worse. This (see note, page 37) Marks the Beginning of the Medical Laws in America.

I shall now proceed to give the particulars of one of the most important circumstances of my life, in as correct and impartial a manner as I am capable of doing from memory; in order to show what I have suffered from the persecutions of some of the medical faculty, for no other reason, as I conceive, than that they feared my practice would open the eyes of the people, and lessen their importance with them; by giving such information as would enable them to cure themselves of disease, without the aid of a doctor; and from many others, who were governed altogether by the prejudices they had formed against me by the false reports that had been circulated about my practice, without having any other knowledge of me. Many of the latter, however, have since been convinced of their error, have a very favorable opinion of my system, and are among my best friends.

After practising in those parts through the season of 1809, I went home to Surry, where I remained a few weeks, and returned back to Salisbury. On my way there, I made several stops in different places where I had before practised, to see my friends and to give information to those who made use of my medicine and practice. On my arrival at Salisbury, my friends informed me that Dr. French had been very busily employed in my absence, and that he and a Deacon Pecker, who was one of the grand jury, had been to Salem, to the court, and on their return had said that there had been a bill of indictment found against me for wilful murder. They advised me to go off, and keep out of the way; but I told them I should never do that; for if they had found a bill against me, the government must prove the charges, or I must be honorably acquitted. About ten o'clock at night Dr. French came to the place where I stopped, with a constable, and made me a prisoner in behalf of the commonwealth. I asked the constable to read the warrant, which he did; by this I found that Dr. French was the only complainant,

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and the justice who granted the warrant, ordered me before him to be examined the next morning. I was then taken by the constable to Dr. French's house, and keepers were placed over me to prevent me from escaping. While at his house and a prisoner, Dr. French took the opportunity to abuse and insult me in the most shameful manner that can be conceived of, without any provocation on my part. He continued his abuse to me till between two and three o'clock, when he took his horse and set out for Salem to get the indictment. After he was gone, I found on inquiry of the constable, that after he had been before the grand jury and caused me to be indicted, he came home before the bill was made out, and finding that I was at Salisbury, fearing I might be gone, and he should miss the chance of gratifying his malicious revenge against me, he went to a brother doctor, who was a justice of the peace, before whom he made oath, that he had probable ground to suspect, and did suspect, that I had with malice aforethought, murdered sundry persons in the course of the year past, whose names were unknown to the complainant; upon which a warrant was issued against me, and I was arrested as before stated, in order to detain and keep me in custody, till the indictment could be obtained.

In the morning I was brought before the said justice, and he not being ready to proceed in my examination, the court was adjourned till one o'clock; when I was again brought before him, and he said he could not try me until the complainant was present, and adjourned the court again till near night. The constable took me to his house in the mean time, and put me in a back room and left me alone, all of them leaving the house. When they came back, some of them asked me why I did not make my escape, which I might very easily have done out of a back window; but I told them that I stood in no fear of the consequence, having done nothing whereby I ought to be punished; that I was taken up as a malefactor, and was determined to be convicted as such, or honorably acquitted. Just before night, Dr. French arrived with a Sheriff, and ordered me to be delivered up by the constable to the Sheriff; and after Dr. French had again vented his spleen upon me by the most savage abuse that language could express, saying that I was a murderer, and that I had murdered fifty, and he could prove it; that I should be either hung or sent to the State prison for life, and he would do all in his power to have me convicted. I was then put in irons by the sheriff, and conveyed to the jail in Newburyport, and confined in a dungeon, with a man who had been convicted of an assault on a girl six years of age, and sentenced to solitary confinement for one year. He seemed to be glad of company; and reminded me of the old saying, that misery loves company. I was not allowed a chair or a table, and nothing but a miserable straw bunk on the floor, with one poor blanket which had never been washed. I was put into this prison on the 10th day of November, 1809; the weather was very cold, and no fire, and not even the light of the sun, or a candle; and to complete the whole, the filth ran from the upper rooms into our cell, and was so offensive that I was almost stifled with the smell. I tried to rest myself as well as I could, but got no sleep that night, for I felt something crawling over me, which caused an itching, and not knowing what the cause was, inquired of my fellow sufferer; he said that it was the lice, and that there was enough of them to shingle a meeting-house.

In the morning there was just light enough shone through the iron grates, to show the horror of my situation. My spirit and the justness of my cause prevented me from making any lamentation, and I bore my sufferings without complaint. At breakfast time I was called on through the grates to take our miserable breakfast;

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it consisted of an old tin pot of musty coffee, without sweetening or milk, and was so bad as to be unwholesome; with a tin pan containing a hard piece of Indian bread, and the nape of a fish, which was so hard I could not eat it. This had to serve us till three o'clock in the afternoon, when we had about an equal fare, which was all we had till the next morning. The next day Mr. Osgood came from Salisbury to see me, and on witnessing my miserable situation, he was so much affected, that he could scarcely speak. He brought me some provisions, which I was very glad to receive; and when I described to him my miserable lodgings, and the horrid place I was in, he wept like a child. He asked liberty of the jailor to furnish me with a bed, which was granted, and brought me one, and other things to make me more comfortable. The next day I wrote letters to my family, to Dr. Fuller, and to Judge Rice, stating to them my situation.

The bed which was brought me, I put on the old one, and allowed my fellow sufferer a part of it, for which he was very thankful. I had provisions enough brought me by my friends for us both, and I gave him what I did not want; the crusts and scraps that were left, his poor wife would come and beg, to carry to her starving children, who were dependent on her. Her situation and that of her husband were so much worse than mine, that it made me feel more reconciled to my fate; and I gave her all I could spare, besides making his condition much more comfortable, for which they expressed a great deal of gratitude.

In a few days after my confinement, Judge Rice came to see me, and brought with him a lawyer. On consulting upon the case, they advised me to petition to the Judges of the Supreme Court to hold a special court to try my cause; as there would be no court held by law, at which it could be tried, till the next fall, and as there could be no bail for an indictment for murder, I should have to lay in prison nearly a year, whether there was any thing against me or not. This was the policy of my enemies, thinking that they could keep me in prison a year, and in all probability I should not live that time; and their ends would be fully answered.

I sent on a petition agreeably to the advice of my friends, and Judge Rice undertook to attend to the business and do every thing to get the prayer of the petition granted. He followed the business up with great zeal, and did every thing that could be done to effect the object. I think he told me that he or the lawyer, Mr. Bartlett, had rode from Newburyport to Boston fifteen times in the course of three weeks, on the business. At length Judge Parsons agreed to hold a special court at Salem, on the 20th day of December, to try the cause, which was one month from the day I was committed. My friends were very attentive and zealous in my cause, and every preparation was made for the trial.

During this time the weather was very cold, and I suffered greatly from that cause, and likewise from the badness of the air in our miserable cell, so that I had not much life or ambition. Many of my friends came to see me, and some of them were permitted to come into the cell; but the air was so bad and the smell so offensive, that they could not stay long. My friend, Dr. Shephard, came to see me, and was admitted into our dungeon. He staid a short time, but said it was so offensive he must leave me; that he would not stay in that place a week for all Newburyport. On Thanksgiving Day we were taken out of our cell and put in a room in the upper story, with the other prisoners, and took supper together; they consisted of murderers, robbers, thieves, and poor debtors. All of us tried to enjoy our supper and be in as good spirits as our condition would permit. The most of their complaints were of the filthiness and bad condition of the prison, in

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which we all agreed. Before it was dark I and my companion were waited upon to our filthy den again. There was nothing in the room to sit upon higher than the thickness of our bed; and when I wrote any thing, I had to lay on my belly, in which situation I wrote the Medical Circular, and several other pieces, which were afterwards printed.

After I had been in prison about two weeks, my son-in-law came to see me. I had before my imprisonment sent for him to come to Portsmouth on some business, and on hearing of my being in prison, he immediately came to Newburyport to see me. He seemed much more troubled about my situation than I was myself. I felt perfectly conscious of my innocence and was satisfied that I had done nothing to merit such cruel treatment; therefore my mind was free from reproach; for I had pursued the course of duty, which I conceived was allotted me by my Maker, and done every thing in my power to benefit by fellow-creatures. These reflections supported me in my troubles and persecutions, and I was perfectly resigned to my fate.

About this time, a lawyer came into the prison and read to me the indictment, which was in the common form, that I, with malice aforethought, not having the fear of God before my eyes, but moved by the instigation of the devil, did kill and murder the said Lovett, with lobelia, a deadly poison, &c.; but feeling so perfectly innocent of the charges, which the bill alleged against me, it had very little effect upon my feelings; knowing them to be false, and that they had been brought against me by my enemies, without any provocation on my part.

In the morning of the day that was appointed for me to be removed to Salem for trial, I was taken out of my loathsome cell by the jailor, who gave me water to wash myself with, and I was permitted to take my breakfast by a fire, which was the first time I had seen any for thirty days, and could not bear to sit near it in consequence of its causing me to feel faint. As soon as I had eaten my breakfast, the iron shackles were brought and put on my hands, which I was obliged to wear till I got to Salem. The weather was very cold, and the going bad; we stopped but once on the way, the distance being about twenty-six miles. On our arrival, I was delivered over to the care of the keeper of the prison in Salem, and was confined in a room in the second story, which was more comfortable than the one I had left. I was soon informed that Judge Parsons was sick, and had put off my trial for ten days; so I had to reconcile myself to the idea of being confined ten days more without fire. However I was not without friends; Elder Bolles and Capt. Russell came to see me the first night, and Mrs. Russell sent her servant twice every day with warm coffee, and other things for my comfort, for which I have always been grateful; and Mrs. Perkins, whom I had cured of a dropsy, sent for my clothes to wash against the day of my trial.

Many of my friends came to Salem to attend my trial; some as witnesses, and others to afford me any assistance in their power. A few days before my trial, Judge Rice and Mr. Bartlett, whom I had employed as my lawyer, held a consultation with me, as to the arrangements necessary to be made; when it was decided that it would be best to have other counsel; and Mr. Story was agreed upon, who engaged in my cause. I had also engaged Mr. Bannister, of Newburyport, to assist in the trial; but he was of no benefit to me, and afterwards sued me for fifty dollars, at fifty miles distance, to put me to great expense. In order to be prepared for the trial, my counsel held a consultation together, and examined the principal witnesses in the defence. Mr. Bolles, Judge Rice, and several others gave great satisfaction as to the value and usefulness of the medicine, and the

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variety of cures that had been performed with it within their knowledge. Dr. Fuller, of Milford, N. H., was present and made many statements in my favor, as to the value of the medicine, and advised to have Dr. Cutler, of Hamilton, summoned, which was done. Every thing was done by my friends that was in their power, to assist me and give me a chance for a fair trial, for which I shall always feel very grateful.

On the 20th day of December, 1809, the Supreme Court convened to hear my trial, at which Judge Parsons presided, with Judges Sewall and Parker, assistant Judges. The case was called about ten o'clock in the morning, and the chief justice ordered me to be brought from the prison and arraigned at the bar for trial. I was waited on by two constables, one on my right and the other on my left, in which situation I was brought from the jail to the court-house and placed in the bar. The court-house was so crowded with the people, that it was with much difficulty we could get in. After I was placed in the criminal seat, a chair was handed me and I sat down to wait for further orders. Here I was the object for this great concourse of people to look at; some with pity, others with scorn. In a few minutes I was directed to rise and hold up my right hand, to hear the indictment read, which the grand jury had upon their oaths presented against me. It was in common form, stating that I had with malice aforethought, murdered Ezra Lovett, with lobelia, a deadly poison. I was then directed by the court to plead to the indictment, guilty, or not guilty; I plead not guilty, and the usual forms, in such cases, were passed through, the jury called and sworn, and the trial commenced.

The Solicitor General arose, and opened the case on the part of the Commonwealth, and made many hard statements against me, which he said he was about to prove; he stated that I had at sundry times killed my patients with the same poison. The first witness called to the stand, on the part of the government, was Mr. Lovett, the father of the young man that I was accused of killing. He made a tolerable fair statement of the affair in general, particularly of coming after me several times before I could attend; though I think he exaggerated many things against me, and told over several fictitious and ridiculous names, which people had given my medicine, by way of ridicule, such as bull-dog, ram-cat, screw-suger, and belly-my-grizzle; all of which had a tendency to prejudice the court and jury against me; and I also thought that he omitted to tell many things in my favor, that must have been within his knowledge; but there was nothing in his evidence that in the least criminated me, or supported the charges in the indictment.

The next witness called, was Dr. Howe, to prove that I had administered the poison alleged in the indictment. He stated that I gave the poison to the said Lovett, and produced a sample of it, which he said was the root of lobelia. The Judge asked him if he was positive that it was lobelia; he said he was, and that I called it coffee. The sample was handed round for the court to examine, and they all appeared to be afraid of it, and after they had all satisfied their curiosity, Judge Rice took it in his hand and ate it, which very much surprised them. The Solicitor General asked him if he meant to poison himself in presence of the court. He said it would not hurt him to eat a peck of it, which seemed to strike the court with astonishment. Dr. Howe was then called at my request for cross-examination, and Mr. Story asked him to describe lobelia, how it looked when growing, as he had sworn to it by the taste and smell. This seemed to put him to a stand, and after being speechless for several minutes, he

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said he had not seen any so long, he should not know it if he should see it at this time. This so completely contradicted and did away all that he had before stated, that he went off the stand quite cast down.

Dr. Cutler was called on to inform the court what the medicine was that Dr. Howe had declared so positively to be lobelia, and after examining it, he said that it appeared to him to be marsh-rosemary, which was the fact. So far, all they had proved against me was, that I had given the young man some marsh-rosemary, which Dr. Cutler had declared to be a good medicine.

Some young women were brought forward as witnesses, whom I had no knowledge of ever seeing before. They made some of the most absurd and ridiculous statements about the medicine, that they said I gave the young man, that were probably ever made in a court of justice before; some of which were too indecent to be here repeated. One of them said that I crowded my puke down his throat, and he cried murder till he died. This was well known to be a falsehood, and that the story was wholly made up by my enemies, as well as what had been before stated by those women, for the purpose of trying to make out something against me. I had two unimpeachable witnesses in court, ready to swear that I never saw the young man for more than fourteen hours before he died, during all which time he was in the care of Dr. Howe; but by not having an opportunity to make my defence, in consequence of the government not making out their case against me, could not bring them forward.

John Lemon was the next witness brought forward on the part of the Commonwealth, and was directed to state what he knew about the prisoner at the bar. He stated that he had been out of health for two years, being much troubled with a pain in his breast, and was so bad that he was unable to work; that he could get no help from the doctors; that he applied to me and I had cured him in one week; and that was all he knew about the prisoner at the bar. By this time Judge Parsons appeared to be out of patience, and said he wondered what they had for a grand jury, to find a bill on such evidence. The Solicitor General said he had more evidence which he wished to bring forward.

Dr. French was called, and as he had been the most busy actor in the whole business of getting me indicted, and had been the principal cause, by his own evidence, as I was informed, of the grand jury finding a bill against me, it was expected that his evidence now would be sufficient to condemn me at once; but it turned out like the rest, to amount to nothing. He was asked if he knew the prisoner at the bar; he said he did. He was then directed to state what he knew about him. He said the prisoner had practised in the part of the country where he lived, with good success; and his medicine was harmless, being gathered by the children for the use of the families. The Judge was about to charge the jury, when the Solicitor General arose and said, that if it was not proved to be murder, it might be found for manslaughter. The Judge said, you have nothing against the man, and again repeated that he wondered what they had for a grand jury.

In his charge to the jury, the Judge stated that the prisoner had broken no law, common or statute, and quoted Hale, who says, any person may administer medicine with an intention to do good; and if it has the contrary effect from his expectation, and kills the patient, it is not murder, nor even manslaughter. If doctors must risk the lives of their patients, who would practise? He quoted

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another clause of law from Blackstone, who says, where no malice is, no action lies.*

The charge being given to the jury, they retired for about five minutes, and returned into court and gave in their verdict of Not Guilty.

I was then honorably acquitted, without having had an opportunity to have my witnesses examined, by whom I expected to have proved the usefulness and importance of my discovery before a large assembly of people, by the testimony of about twenty-five creditable men, who were present at the trial; besides contradicting all the evidence produced against me. After the trial was over, I was invited to the Sun Tavern to supper, where we enjoyed ourselves for the evening. When we sat down to the table, several doctors were present, who were so offended at my being acquitted, that they left the table, which made me think of what the Scripture says, that "the wicked flee when no man pursueth, but the righteous are as bold as a lion."

During the evening, I consulted with my friends upon the subject of prosecuting Dr. French, and making him pay damages for his abuse to me when a prisoner at his house, in saying that I had murdered fifty, and he could prove it; and after having had a fair chance, and having failed to prove one, it was thought to be a favorable opportunity to make him pay something for his conduct towards me, in causing me so much suffering, and for the trouble he had made me and my friends. A prosecution was agreed upon, and to bring the action in the county of York. Judge Rice agreed to be my bail, and likewise he undertook to pay my lawyers and witnesses for the above trial, and paid Mr. Bartlett forty dollars that night. Mr. Story was paid twenty dollars by a contribution of my friends in Salem. I staid at Mrs. Russel's that night; I had but little sleep, for my mind was so much agitated, when I came to consider what I had gone through, and the risk I had run in escaping the snares of my enemies, with the anxiety of my family till they got the news of my acquittal, that sleep fled from my eyelids, and I was more confused than when in prison.

The next day I went to Salisbury, and stopped with Mr. Osgood, where I was first arrested. Mrs. Osgood and a young woman who had been employed by me as a nurse, assisted to clean my clothes, and clear me of some troublesome companions I had brought with me from the prison; and when I had paid a visit to all my old friends, who were very glad to see me, I went to Portsmouth, to recover my health, which was very much impaired, by being confined forty days in those filthy and cold prisons, in the coldest part of a remarkably cold winter. My friends attended upon me, and carried me through a regular course of medi-

* As the learned Judge could find no law, common or statute, to punish the accused, he directed or advised those present to stop this quackery, as he called it, and for this purpose, to petition the Legislature to make a law that should make it penal for all who should practise without license from some medical college; to debar them of law to collect their debts; and if it should not answer, to make it penal by fine and imprisonment.

This hint, thus given by the Judge, was seized upon first in Massachusetts; from thence it has spread to nearly all the States in the Union. From this source may be traced all those unconstitutional laws which have been enacted in relation to this subject, and all those vexatious suits which I have had to attend in many of the States, from Massachusetts to South Carolina, more or less almost every year since. But I have been able to break them down by my patent being from higher authority, which Judge Parsons could not prevent, or perhaps he never thought of. He however made his own report, and handed it to the reporter, which is published in the 6th volume of Massachusetts Reports, and is resorted to by all the enemies of the practice, for a defence against the system.

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cine; but the first operation of it had little effect, in consequence of my blood being so much chilled, and it was a long time before I could raise a perspiration that would hold. I am confident that I should not have lived through the winter in prison, and believe that this was their plan; for which reason they managed to have me indicted for murder; knowing in that case there could be no bail taken, and there would be no court at which I could be tried, for nearly a year, I should have to lay in prison during that time, and that I should probably die there; or in any case, they would get rid of me for one year at least, whether there was any thing proved against me or not; and in that time, the doctors and their dupes would be enabled to run down the credit of my medicine, and put my practice into disrepute among the people; but I have been able, by good fortune, and the kind assistance of my friends, to defeat all their plans.

Retribution.

Most of those who have been instrumental in trying to destroy me and my practice, have had some judgment befall them as a reward for their unjust persecutions and malicious conduct towards me. I was credibly informed that Deacon Pecker, one of the grand jury that found a bill against me, went with Dr. French, to hunt up evidence to come before himself, in order to have me indicted. A short time after I was put in prison, he had a stroke of the palsy, and has remained ever since, [1822,] one half of his body and limbs useless. Dr. French, one year after I was acquitted, was brought to the same bar in which I was placed, and convicted for robbing a grave yard of a dead body, which it was reported he sold for sixty dollars. He lost all his credit, and was obliged to quit his country.*

Again Invades Dr. French's Territory and Prosecutes Him for Damages, but Loses the Case.

In the month of January of 1810, I returned home to my family, and staid till I had in some measure recovered my loss of health by imprisonment. In March I returned to Portsmouth, and after taking the advice of my friends, made arrangements for prosecuting Dr. French. The prosecution was commenced, and he was summoned before the court of common pleas, in the County of York. Judge Rice undertook the principal management of the business, and became my bail. The action was called and carried to the Supreme Court by demurrer, which was to set at Alfred, in October. I attended with my witnesses, and expected to have gone to trial; and after waiting several days to know what the defence was going to be, the counsel for the defendant made their plea of justification. I found that their plan was to prove that I had murdered sundry persons whom I had attended, and by that means to make it out that any one had a right to call me a murderer; and that for this purpose, Dr. French had been to every place where I had practised, collecting every case of the death of any that I had attended in this part of the country, and had made out eight cases, all of which have been before mentioned in this narrative, most of whom had been given over by the doctors, as past cure, and the others known to be desperate cases. He had obtained the depositions of all that were prejudiced against me, and had collected a mass of evidence to support his defence. After finding what their plan was, it was thought necessary for me to go to all the places where they had been, and

*I do not pretend that these things followed on account of their treatment to me; but I only state them as matters of fact; for so it happened.

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get evidence to contradict these highly colored and exaggerated statements, and I was under the necessity of requesting a delay of the trial for one week, which was granted. I proceeded immediately, and took the depositions of those who were knowing to the facts; but found that these were not sufficient, and went again to Deerfield, and summoned two men to appear at court, and give their verbal testimony. When I had got ready to come to trial, the defendant was not ready, and got it put off to the next term, which would be holden at York the next year. In the spring, before the setting of the court, I went to the clerk's office to find what the depositions were that were filed against me; and the whole appeared to be a series of exaggerated statements, made by those who were governed by their prejudices, without having but very little, if any, knowledge of the facts, more than what they obtained by hearsay. This caused me to redouble my diligence to get witnesses to appear on the stand to contradict their testimony, on each case they had alleged against me.

On the day appointed for the trial, every thing was prepared on my part to have a fair hearing. Judge Parsons was on the bench, and seemed, as I thought, to be determined to have the case go against me; for he appeared to know every thing that was to be in the defence beforehand. I made out my case by proving the words uttered by the defendant, which were in my declaration. They then proceeded in the defence, to make out the eight cases of murder, which were alleged against me. The first was the case of a man by the name of Hubbard, of Eliot, who had been dead above two years, the particulars of which I have before stated. The witness brought to support this case, told a very lamentable and highly colored story; and I brought on the stand a very respectable witness, who completely contradicted the whole statement.

The next cases brought up, were the three children of Mr. Fulsom, of Deerfield, the particulars of which have been before related. A number of depositions were read, which the defendant had obtained of those that had been my enemies, and who knew nothing of the matter, more than hearsay reports among themselves. They gave a very highly colored account of my treatment of the children; so much so, that it would appear by their stories, that I had taken them in health, and had roasted them to death; never saying a word about the fifteen that I cured, some of which had been given over by the doctors. To rebut the evidence that was produced to prove that I had killed those children, I brought on to the stand, two respectable witnesses, who were knowing to all the circumstances, being present at the time of my attending the family. They gave a correct and particular account of all the circumstances as they took place; of the situation of the family when I first saw them, and the violence of the disorder; how the doctors had lost all their patients that had been attacked with the disorder before I came; with the number that I cured by my mode of practice; and that the doctors afterwards adopted my plan, and saved the lives of a number by it. The Judge interrupted them and read some of the depositions over again; but these witnesses stated that they were not true, and went on to give some of the particulars of the opposition I met with in my practice from those very persons, whose depositions had been read, when the Judge seemed put out, and attempted to stop them, saying they had said enough. They said that having sworn to tell the whole truth, they felt it their duty to do it.

They next brought on the case of a woman who had died at Beverly, that I attended, and with it the case of Ezra Lovett, whom I had been tried for murdering. I was very glad to have this case brought up again, as I wished to have

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an opportunity to prove all the facts relating to it, which I had been prevented from doing on my trial, in consequence of being acquitted without making any defence. The evidence brought forward to support this case, were the depositions of those who had testified against me on my trial at Salem; they were pretty near the same as then given. After those depositions were read, I called on to the stand Elder Williams and Mr. Raymond, who gave all the particulars of my attending upon the young man, as has been before related, which completely contradicted all the depositions they had read in the case. The Judge interrupted these witnesses, and read the deposition of the girl, who stated that I crowded my pukes down the patient's throat, and he cried murder till he died. They both positively testified, that there was not a word of it true; for when he died, and for twelve hours before, he was under the care of Dr. Howe, during which time I did not see him. As to the woman in Beverly, whom they tried to make out that I murdered, it was proved by these witnesses, that she was in a dying condition when I first saw her, and that I so stated it as my opinion at the time, and that my medicine would not help her.

The next case was that of Mrs. Lifford, who died at Salisbury, the particulars of which have been before given. The evidence brought to prove this case of murder, was the deposition of the woman who nursed her, and by whose neglect the patient took cold, after the medicine had a very favorable operation, and appearances were much in her favor; in consequence of which she had a relapse, and I could not produce any effect upon her by the medicine afterwards. This woman confessed at the time, that she was the only one to blame, and that no fault ought to be attached to me; but she afterwards was influenced by Dr. French to turn against me, and made threats that she would swear to any thing to injure me. After her deposition was read, I brought witnesses on the stand, who completely contradicted every thing contained in it; but the Judge read her deposition to the jury, and directed them to pay attention to that in preference to the witnesses on the stand.

The eighth and last case was that of the son of Thomas Neal, of Portsmouth, who was very violently attacked, and was attended by Dr. Cutter. I was called on at night to attend him, and thought there was a possibility of helping him; but the man with whom he lived, would not consent that I should do anything for him, and I went away, after telling them that he would be either worse or better before morning, and if he was worse he would die. I was called to visit him in the morning, and was informed that he was worse, and that his master had consented to have me attend upon him. I told his father it was undoubtedly too late; but he insisted upon it so much, I attended, and told them the chance was very small for doing him any good, as I considered it a desperate case. After being very hardly urged by his friends, I gave him some medicine, but it had no effect, and about sun-down he died. The doctor who attended him was brought forward to prove that I murdered the patient. If I recollect rightly, he swore that the patient had the dropsy in the brain, and that the disorder had turned, and he was in a fair way to recover; but I came and gave him my poison pukes, and killed him. I brought forward evidence who swore to the facts as I have above related them, and that the doctor would give no encouragement of helping the patient. The father of the young man gave his evidence, and stated that the son was in a dying situation when I gave him medicine; but the Judge interrupted him, and asked if he was a doctor, to which he answered no. He then

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said the doctor has stated that his disorder had turned, and he was getting better; are you going to contradict the doctor? and thus managed to do away his testimony.

I have thus given a brief sketch of the evidence in the eight cases, which were attempted to be proved as murder, in order to make out justification on the part of the defendant, with my defence to the same, in as correct a manner as I am able from memory; and am confident that every circumstance as I have related it, can be substantially proved by living witnesses. After the evidence was gone through, the lawyers on both sides made their pleas, making the case on my part as good and as bad as they could. The Judge then gave his charge to the jury, which was considered by those who heard it, to be the most prejudiced and partial one that had ever been heard before. He made use of every means to raise the passions of the jury, and turn them against me; stating that the defendant was completely justified in calling me a murderer, for if I was not guilty of wilful murder, it was barbarous ignorant murder; and he even abused my lawyers for taking up for me, saying that they ought to be paid in screw-augers and bull-dogs. The people that were present were very much disgusted at his conduct, and they expressed themselves very freely upon the subject. It was said by some, that our courts, instead of being courts of justice, had become courts of prejudice. One man said that he hoped Judge Parsons would never have another opportunity to sit on a cause; which prediction turned out true, for he soon after had a stroke of palsy, and as I am informed, died before the next court met. The jury brought in their verdict of justification on the part of the defendant, and throwed the whole cost on me, which amounted to about two thousand dollars.

When I found how the case was going to turn, I went to Portsmouth, and soon after made arrangements to pay the costs. Judge Rice was my bail, and undertook to pay all the bills that I had not paid at the time. On my settlement with him, I owed him six hundred dollars for money that he had advanced on my account; for which I had no way to secure him, but by giving him a mortgage on my farm; which I did, and it was put on record, and never known to any of my friends till I had paid it up. He charged nothing for all his time and trouble, through the whole of my persecutions and trials, for which, and for his kindness and friendship on all occasions, I shall ever consider myself under the greatest obligations.

Attesting to the Fact that the "Fashionable" Doctors and Thomson had not yet Buried the Hatchel.

About the first of June, 1811, I received a letter from Eastport, where I had been the fall before and shown some of my mode of practice. Some of the people in that place were so well satisfied with it, that seven men had subscribed their names to the letter, requesting me to come there and practise in the fever, which prevailed in those parts. I left the care of my business at Portsmouth with Mr. Carpenter, my apprentice, and immediately took passage for Eastport, where I arrived about the middle of June. I was very gladly received by those who had wrote to me, and by those with whom I had become acquainted when there before. I agreed to practise under the protection of those who had sent for me, until I had convinced them of its utility, to which they consented, and promised me all the assistance in their power. I was soon called on to practise, and had all the most desperate cases that could be found, in all of which I met with very great success. The first cases I attended in presence of the committee, were five des-

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perate cases of consumption. These patients were all relieved in three weeks, and were all living this present year, (1831.) While attending these people, I was called upon to attend a young man on board a vessel, who had his foot bruised to pieces by a block falling from mast-head, weighing thirteen pounds. It being done five days before I saw him, it was mortified, and the whole body in convulsions. I took off three toes and set the fourth, and cured him in five weeks with the usual practice. While attending him, I had to pass a doctor's shop. A scythe was thrown at me, point first, about the distance of two rods. It passed between my feet without doing any injury. In consequence of this assault, I sent word to all the doctors who had opposed me, that for the politeness with which they had treated me, I would compensate them by taking off the burden of being called up at night, and thus breaking their rest, and would give them the chance of laying in bed until noon, without being disturbed by their patients.

Indicating that Notwithstanding His Protests, Thomson Believed in Witchcraft or some "Baffling" Influence Outside the Natural.

While practising here, I frequently heard of the abuse and scandal towards me and my practice, from Mrs. Lovett, the old woman before mentioned, as the nurse of her son's wife, whom I cured of the dropsy. This old woman was a singular character, and was called a witch by the people; I have no faith in these kind of things, yet her conduct, and certain circumstances that took place, were very extraordinary, and puzzled and astonished me more than any thing I had ever met with, and which I have never been able to account for to this day. Mr. Carpenter was attending a man, where this woman often visited, who had the consumption, and his child, which was sick and had fits. He came to me and said that the medicine he gave would not have its usual effect; that the emetic, instead of causing them to vomit, would make them choke and almost strangle. I attended them myself, and on giving the medicine, it would operate on the man, and not on the child at one time, and the next time on the child and not on him. Sometimes the child would lay in fits, for a whole night, and nothing would have any effect upon it; in the morning it would come out of them and appear to be bright and lively. I had never known the medicine to fail of producing some effect before, where the patient was not so far gone as not to have life enough left to build upon. I can give no reason for this strange circumstance, satisfactory to myself, or which would be thought reasonable by the readers. The old woman, before mentioned, was frequently in and out of the house where the man and child were, and seemed to be very much interested about them; when she was gone the child would frequently go into violent fits, and when I steamed it, it was said the old woman would be in great distress. It caused much conversation among the neighborhood; they believed it to be the power of witchcraft; and that the old woman had a control over the destinies of the man and child, and was determined to destroy them, in order to get her revenge on me. I have no belief in these things; but must confess that her strange conduct, and the extraordinary circumstances attending the whole affair, baffled me more than any thing I had ever met with before. I was unable to do anything for these two patients, except sometimes by a temporary relief. They continued to grow worse, and finding it not in my power to do them any good, I left them, and they both soon after died.

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Decides to "Patent" his System of "Thomsonian Treatment." The Famous Beginning of American Patent Medicines. (See note, page 37.)

When I had maturely considered the subject in all its bearings, and exercised my best abilities in devising some plan by which I could extricate myself from the dangers which threatened me on every hand; and to prevent those rights, which twenty years labor, with much suffering and great expense had given me a just claim to, from being wrested from me; I finally came to the conclusion that there was only one plan for me to pursue with any chance of success; and that was to go on to Washington, and obtain a patent for my discoveries; and put myself and medicine under the protection of the laws of my country, which would not only secure to me the exclusive right to my system and medicine, but would put me above the reach of the laws of any state.

After coming to the conclusion to go on to the seat of government and apply for a patent, made all necessary preparation for the journey, and started from Portsmouth on the 7th of February, and arrived at Washington on the 23d. The next day after my arrival, I waited on Capt. Nicholas Gilman, of Exeter, showed him my credentials, and asked his advice, what I must do to obtain my object. He said that he thought it could not be made explicit enough to combine the system and practice, without being too long; he however advised me to carry my petition to the patent office; which was then under the control of Mr. Monroe, Secretary of State. I went to the patent office and found that Dr. Thornton was the Clerk, and presented him my petition. He asked me many questions, and then said I must call again; I called again the next day, and he said the petition was not right; that I must specify the medicine, and what disorder it must be used in; he said that those medicines in general terms to cure every thing, was quackery; that I must particularly designate the medicine, and state how it must be used, and in what disease. I then waited on Martin Chittenden, late governor of Vermont, who was at Washington, and asked his assistance; he was from the same town where my father lived, and readily consented. We made out the specifications in as correct a manner as we could, and the next day I carried them to the patent office, and gave them to Dr. Thornton; he complained much about its being too short a system, and put me off once more. I applied again and asked him for my patent; but he said I had not got the botanic names for the articles, and referred me to Dr. Mitchell, of New York, who was in the House of Representatives. I applied to him, and requested him to give the botanic names to the articles mentioned in my petition. He wrote them, and I carried them to Dr. Thornton; but he was unable to read some of the names, one in particular; he said I must go again to Dr. Mitchell, and get him to give it in some other words, and not tell him that he could not read it. I went, and the doctor wrote the same word again, and then wrote, or "Snap-dragon;" which I carried to Dr. Thornton, and requested him to put in the patent my names, and record it for himself, snap-dragon, or any other name he chose. He then talked about sending me to Philadelphia, to Dr. Barton, to get his names.

I found he was determined to give me all the trouble he could, and if possible to defeat my getting a patent, and I intimated that I should go with my complaint to Mr. Monroe, upon which he seemed a little more disposed to grant my request, and said he would do without Dr. Barton's names. He then went to work to make out the patent, and when he came to the article of myrrh, he found much fault about that, and said it was good for nothing. I told him that I paid for the patent,

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and if it was good for nothing it was my loss. After much trouble, I got it made out according to my request, and the medicine to be used in fevers, colics, dysenteries and rheumatism; he then asked me if I wanted any additions, and I told him to add, "the three first numbers may be used in any other case to promote perspiration, or as an emetic," which he did. I then had to go to the treasury office and pay my money and bring him duplicate receipts. After all this trouble, I at length succeeded in obtaining my patent according to my request, which was completed and delivered to me on the third day of March, 1813.

Interviews the Celebrated Medical Authorities of that Date, Drs. Barton and Rush, of Whom He Speaks Highly.

The next day after I had completed my business was the day of inauguration of the President of the United States; and I had the curiosity to stay and see the ceremonies on that occasion. After the ceremonies were over I went to the stage office and found that the seats were all engaged for a fortnight; and was obliged to stay till the 13th before I could get a passage. I then took passage in the stage and came on to Philadelphia, where I remained several days for the purpose of seeing Drs. Rush and Barton, to confer with them upon the subject of introducing my system of practice to the world. I spent considerable time with Dr. Barton; but Dr. Rush was so much engaged, that I was unable to have but little conversation more than stating my business. He treated me with much politeness; and said that whatever Dr. Barton agreed to, he would give his consent, so that my business was chiefly with the latter gentleman. I asked him many questions concerning my system and patent, and requested his advice of the best mode of introducing it. He advised me to make friends of some celebrated doctors, and let them try the medicine, and give the public such recommendation of it as they should deem correct. I told him that I feared that if I should do so, they would take the discovery to themselves, and deprive me of all credit or benefit from my labors, and asked him if he thought that would not be the case. He said it might with some, but he thought there were some of the profession honorable enough not to do it. I asked him if he would make a trial of it himself, and give it such credit as he should find it to deserve. He said that if I would trust it in his hands, he should be pleased, and would do justice to me and the cause. I accordingly left some of the medicine with him, with directions how to use it; but before I received any return from him, he died; and Dr. Rush also died some time previous; by which means I was deprived of the influence of these two men, which I was confident would otherwise have been exerted in my favor.

Thomson in an Interview with Barton Criticizes the Prevalent Medical Treatment and Points Out the Absurdity of Bleeding to Cure Disease. "It appeared to me very extraordinary to bleed twenty times to cure the most fatal disease ever known; the same manner of treatment would kill one-half of those in health."

During my interviews with Dr. Barton, we had much conversation upon the subject of the medical skill, and he being quite sociable and pleasant, I expressed myself very freely upon the fashionable mode of practice, used by the physicians of the present day. He acknowledged there was no art or science so uncultivated as that of medicine. I stated to him pretty fully my opinion of the absurdity of bleeding to cure disease; and pointed out its inconsistency, inasmuch as the same method was made use of to cure a sick man as to kill a well beast. He laughed and said it was strange logic enough.

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While in the city of Philadelphia, I examined into their mode of treating the yellow fever; and found to my astonishment that the treatment prescribed by Dr. Rush was to bleed twice a day for ten days. It appeared to me very extraordinary to bleed twenty times to cure the most fatal disease ever known; and am confident that the same manner of treatment would kill one half of those in health. This absurd practice being followed by the more ignorant class of the faculty, merely because it has been recommended in some particular cases by a great man, has, I have not the least doubt, destroyed more lives than has ever been killed by powder and ball in this country in the same time. Those I met in the streets, who had escaped the fatal effect of bleeding, mercury, and other poisons, carried death in their countenance; and on conversing with them, they said they had never been well since they had the fever; that they took so much mercury and opium, they were afraid that they were in a decline.

After a Series of Journeys, introducing His "System," Establishing Agencies, and Selling Patent Rights to His System of Practice, Thomson is again Disappointed in Financial Affairs.

This season I went to Eastport, and collected some money to pay my friend Rice; and thinking to make some profit, laid it out in fish, and sent it to Portland, consigned to my friend Fickett. When I went there myself, sold the fish to him. I afterwards made a settlement with him, and took his note for one hundred and sixty-three dollars, which he agreed to pay Judge Rice; as he was going to Boston in a short time, and he would call on him at Portsmouth for that purpose. I then went home to see my family, and in about six months after, returned to Portsmouth, and on calling on Judge Rice, found to my surprise that Mr. Fickett had not paid the money, that he had failed, and there was no chance for me to get any thing of him. So I was again disappointed in my expectations of paying this demand, and it appeared to me that all my hard earnings would be sacrificed to pay the expense of persecutions; but my friend Rice was very indulgent; and instead of complaining, did all he could to encourage me and keep up my spirits.

Meets a Disaster that "Was Taken Advantage of by His Enemies."

In 1814 returned to Portsmouth, which place I made the principal depot of my medicines; having previous to my returning from the Eastward, made arrangements with my agents to supply them, and all others who had purchased the rights, with such medicine as they might want, by their applying to me for them. I had laid in a large stock, the value of which I estimated to be about one thousand dollars. I went to Boston and Salem, to procure some articles that could not be obtained elsewhere, in order to complete my stock; when absent, the great fire took place at Portsmouth, and all my stock of medicine was consumed. This was a very serious loss to me, not only in a pecuniary point of view, but it disarranged all my plans, and put it out of my power to supply those who I knew depended upon me for all such articles as were most important in the practice. The season was so far advanced that it was impossible to obtain a new recruit of most of the articles; and I was obliged to collect a part of what had been sent to different places, in order to be able to supply, in the best manner I could, such demands for medicine, as I should be called on for. In doing this, I was put to great trouble and expense, and in order to make myself whole, was under the necessity of raising the price of the medicine fifty per cent.; this caused much grumbling and complaint from the members of the societies in different places, and was taken advantage of by my enemies to injure me all they could.

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Concerning Two Remedies and Further Trouble with Infringers on His Patented System of Medication.

After staying in Washington a few days, we went to Alexandria where we remained about a week, in which time I collected some cyprus bark, which is known there by the name of poplar, and what we call poplar, is by them called quaking-asap, on account of the constant shaking of its leaves.

During this summer, I visited Eastport, Portland, Charlestown, South Reading and other places where societies had been formed, or rights sold to individuals, to give information to the people; and in all places where I went, found the book of directions, which had been clandestinely obtained and published by the doctors and others, to injure me by stopping the sale of rights, selling at 37½ cents. I was under the necessity of putting an advertisement in the papers, cautioning the people against this imposition, which put a stop to their sale; but great pains were taken by my enemies to circulate them among the people; and this is the way that some of my articles of medicine came to be made use of through the country in colds, such as cayenne, ginger, &c. In 1815 I published another edition of my book of directions, and secured the copy right; but this was reprinted at Taunton, and I advertised it as before, and stopped its progress.

Marsh Rosemary Becomes Scarce, but Thomson finds that it is "Too Cold and Binding."

In the fall of the year 1815, I went to Cape Cod to procure some marsh-rosemary, and collected a quantity, carried it to Portsmouth and prepared it for use. This is the last time I have collected any of this article, and as it becomes scarce, think I shall make no more use of it. It is too cold and binding, without using a large share of bayberry bark and cayenne with it, to keep the saliva free. I have found other articles as substitutes, which answer a better purpose, such as hemlock bark, which I have of late made use of and found very good, white lily roots, witch-hazle and raspberry leaves, and sumach berries; the last article is very good alone, steeped and sweetened, and is as pleasant as wine; it is good for children in cases of canker, especially in long cases of sickness when other articles become disagreeable to them.

Thomson Experienced Much Trouble with Persons Who Bought His "System Rights." Ever in a Turmoil, He Decides at last that Whoever "Purchases a Right for Himself and Family is Entitled to All the Privileges."

I formed those who purchased the rights, into a society; and they chose a committee, whom I authorized as agents to sell rights and medicine; but this caused a jealousy among the rest of the members, who said I gave privileges to some more than to others.

I have formed four societies, and given them certain privileges, by allowing them part of the profits on the sale of rights and medicine; but as soon as there was any funds, it has always created uneasiness among the members. Some of the ignorant and selfish, would call for their dividends, as though it was bank stock, instead of feeling grateful for the advantages they enjoy by having their diseases cured, and their minds relieved from the alarming consequences of a disease, with a trifling expense. I have since altered my plan, and now have but one society. Every one who purchases a right for himself and family, becomes a member of the Friendly Botanic Society, and is entitled to all the privileges of a free intercourse with each other, and to converse with any one who has

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bought a right, for instruction and assistance in sickness, as each one is bound to give his assistance, by advice or otherwise, when called on by a member. In this way much more good can be done, and there will be much more good-will towards each other, than where there is any money depending.

In the Decline of Life, Disconsolate and Disappointed at Men's Ingratitude, Thomson Concludes to Appoint a "Suitable Agent" to Care for his Business. He Selects Elias Smith.

After having discovered a system, and by much labor and constant perseverance reduced it to practice, in a manner that had given general satisfaction to all who had become acquainted with it, and having secured the same by patent, in order that I might reap some benefit from my discovery, to support me in my old age, having by a long series of attendance on the sick, both as physician and nurse, become almost worn out, I came to the determination to appoint some suitable person, who would do justice to me and the cause, as a general agent, to take the lead in practice, and give the necessary information to those who should purchase the rights, which would enable me to retire from practice and receive a share of the profits as a reward for my long sufferings. After considerable inquiry, I became acquainted with Elias Smith, who was recommended as a man in whom I could confide, and who was every way qualified as a suitable person to engage in the undertaking. I found him in Boston, and in very poor circumstances; having been for many years a public preacher, but in consequence of his often changing his religious principles and engaging in different projects in which he had been unsuccessful, he was now without a society or any visible means of supporting himself and family. He readily engaged with me, and promised to do every thing in his power, to promote my interest and extend the usefulness of my system of practice.

I sold him a family right in December, 1816, and was in his family during the winter, for the purpose of instructing him in the practice, to qualify him to attend upon the sick and give information to others. I put the utmost confidence in his honor, and spared no pains in communicating to him, without any reserve whatever, all the knowledge I had gained by my experience, both by practice and verbal instruction; under the expectation, that when he became sufficiently acquainted with the system and practice, I should be rewarded for my trouble, by his faithfully performing his duty towards me, according to his promise. I shall make no remark upon my being disappointed in all my expectations in regard to Mr. Smith's conduct, and the treatment I received from him after he had gained a knowledge of the practice from me, to enable him to set up for himself; but shall proceed to give a short account of what took place during my connection with him.

Comes now a Series of Troubles in which Smith and Thomson Disagree, and, as usual, Thomson Becomes an Enemy of His Friend.

In the winter of 1819, I went to Philadelphia, and previous to my going made arrangements with Mr. Smith to publish a new edition of my book of directions; we revised the former edition, and made such additions as we thought would be necessary to give a complete and full description of my system, and the manner of preparing and using the medicine; and I directed him to secure the copy-right according to law. I left the whole care with him, to arrange the matter, and have it printed. On my return to Boston in March, he had got it done; but in a manner

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very unsatisfactory to me, for he had left out twelve pages of the most useful part of the remarks and directions, and it was otherwise very incorrectly and badly printed. I asked him the reason of this, and he said a part of the copy had got mislaid, and the printer had not done his work well. I had no idea at the time, that he had any design in having this pamphlet printed in the manner it was; but his subsequent conduct would justify the belief that he had previous to this, formed a plan to usurp the whole of my system of practice, and turn every thing to his own advantage; for he has since attempted to satisfy the public, that my system was no system; and has brought forward this very book, which was printed under his own inspection, and arranged by him, as a part of his proof, that I was incapable of managing my own discoveries, and of communicating the necessary information in an intelligible manner to make my system of practice useful to those who purchased the rights. It is a well known fact, that some of the most essential parts of the directions were to be verbal; and I had allowed him ten dollars each, to give the proper instructions to all those to whom he sold the rights.

Another circumstance that I have recently found out, goes to show a dishonesty in design, to say the least of it. He deposited the title page of the above mentioned pamphlet, and obtained a certificate from the clerk, in the name of Elias Smith, as proprietor, and caused it to be printed in the name of Samuel Thomson, as author and proprietor. What his intentions were in thus publishing a false certificate, I shall not attempt to explain; but leave the reader to judge for himself.

Smith, now in Open Rebellion, Publishes a Book that Conflicts with Thomson's Exclusive Right to the "System."

In May, 1820, Mr. Smith collected together those in Boston who had bought rights of me or my agents, and formed them into a society, under a new name; he wrote a constitution, which they signed; and the members paid one dollar entrance, and were to pay twelve and a half cents per month assessment, for which he promised them important instructions and cheap medicine. He was appointed president and treasurer, and after he had obtained their money, the meetings were discontinued, and the society was broken up in the course of nine months. In this he appears to have taken the lead of all those who had purchased the right of me, and make them tributary to himself.

In November, I returned from the country and found that he had advertised, without my knowledge or consent, in the Herald, a periodical work published by him at that time, "proposals for publishing by subscription, a book to contain the whole of the system and practice discovered by Samuel Thomson, and secured to him by patent. The price to subscribers to be five dollars. By Elias Smith." This mostly stopped the sale of rights, for no one would purchase a right of me or my agents at twenty dollars, when they had the promise of them at five. I went to him to know what he meant by his conduct, in issuing these proposals; he plead innocence, and said he had no improper design in doing it.

Thomson and Smith Now Separate.

I was now under the necessity of doing something in order to counteract what had been done by Mr. Smith, in publishing the above proposals; and came to the determination to issue new proposals for publishing a narrative of my life as far as related to my practice, with a complete description of my system of practice in curing disease, and the manner of preparing and using the medicine secured to me

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by patent; the price to subscribers to be ten dollars, including the right to each of using the same for himself and family. Mr. Smith undertook to write the proposals and get them printed; after they were struck off, I found he had said in them, by Samuel Thomson and Elias Smith; all subscribers to be returned to the latter. I asked him what he meant by putting his name with mine; he said in order to get more subscribers. I said no more about it at that time, and let them be distributed.

When I settled with him the last time, I asked him what he would charge me to prepare my manuscript for the press; he said he thought we were to write it together; I asked him what made him think so; he said because his name was on the proposals with mine; I admitted this; but told him the reasons he had assigned for putting his name to it without my consent or knowledge. He then intimated that he thought he was to be a partner with me; I asked him what I ever had of him to entitle him to an equal right to all my discoveries. To this he made no reply; but said he would write it, and we would agree upon a price afterwards. I told him no; I must know his price first. He said he could not tell within fifty dollars. I then told him we would say no more about it. This conversation, together with his conduct in regard to the proposals, convinced me beyond all doubt, that his design was to destroy me, and take the whole business to himself. I felt unwilling to trust him any longer, and took all my books and manuscripts from his house.

Thomson Enters Suit for Infringement of Patent, to find it "Improperly Made Out."

He continued to practise and prepare medicine, bidding me defiance. I made several attempts to get an honorable settlement with him, without success. I employed three persons to go to him and offer to settle all our difficulties by leaving them to a reference; but he refused to do any thing, continued to trespass, and made use of every means to destroy my character by abusive and false reports concerning my conduct, both in regard to my practice and private character. Finding that I could get no redress from him, I put an advertisement in the papers, giving notice that I had deprived him of all authority as my agent; and cautioning the public against receiving any medicine or information from him under any authority of mine. He redoubled his diligence in trespassing, and prepared the medicine and advertised it for sale under different names from what I had called it. I found there was no other way for me to do, but to appeal to the laws of my country for justice, and brought an action against him for a trespass on my patent, to be tried at the Circuit Court, at the October term, 1821. The action was continued to May term, when it was called up, and the Judge decided that the specifications in my patent were improperly made out, not being sufficiently explicit to found my action upon. In consequence of which I had to become non-suited, and stop all further proceedings against him, till I could make out new specifications and obtain a new patent from the government.

Closes the "Narrative of the Life of Samuel Thomson" with a Bitter Complaint Concerning Man's Ingratitude.

Mr. Smith has lately [1822] published a book in which he has given my system of practice with directions for preparing and using the vegetable medicine secured to me by patent, and my plan of treatment in curing disease as far as he knew it. In the whole of this work there is not one principle laid down or one idea suggested, except what is taken from other authors, but what he has obtained from my written or verbal instructions; and still he has the effrontery to publish it to the world as

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his own discovery, without giving me any credit whatever, except he has condescended to say that "Samuel Thomson has made some imperfect discoveries of disease and medicine, but has not reduced any thing to a regular system." This assertion will appear so perfectly ridiculous to all those who have any knowledge of my practice, that I shall forbear making any comment upon it. It is true that he has made alterations in the names of some of the preparations of medicine, but the articles used, and the manner of using them, are the same as mine. It is also a well known fact, that he had no knowledge of medicine, or of curing disease, until I instructed him; and if what he says be true, the effect has been very remarkable, in as much as his magnetical attraction has drawn all the skill from me to himself, by which he has taken upon himself the title of Physician, and left me nothing but the appellation of Mr. Thomson, the imperfect projector.

I have been more particular in describing Mr. Smith's conduct, because it has been an important crisis in the grand plan for which I have spent a great part of my life, and suffered much, to bring about; that of establishing a system of medical practice, whereby the people of this highly favored country may have a knowledge of the means by which they can at all times relieve themselves from the diseases incident to our country, by a perfectly safe and simple treatment, and thereby relieve themselves from a heavy expense, as well as the often dangerous consequences arising from the employing those who make use of poisonous drugs and other means, by which they cause more disease than they cure; and in which I consider the public as well as myself have a deep interest. I have endeavored to make a correct and faithful statement of his conduct, and the treatment I have received from him; every particular of which can be substantiated by indisputable testimony if necessary. I now appeal to the public, and more particularly to all who have benefited by my discoveries, for their aid and countenance, in supporting my just rights against all encroachments, and securing to me my claims to whatever of merit or distinction I am honorably and justly entitled. While I assure them that I am not to be discouraged or diverted from my grand object by opposition, or the dishonesty of those who deal deceitfully with me; but shall persevere in all honorable and fair measures to accomplish what my life has principally been spent in fulfilling.

ADDITIONS IN THE SECOND EDITION. 1825.

Proceeds to Take Legal Evidence with the Object of Preventing Infringement of His "Patent," which had been issued January 28th, 1823.

After having failed in my attempt to obtain justice, by prosecuting Elias Smith for trespass, as has been before related, I found it necessary to adopt some new plan of procedure, in order to meet the universal opposition I have in all cases met with from not only the medical faculty, but from all those who belong to what are called the learned professions. When I obtained my patent, I had good legal advice in making out the specifications, besides, it was examined and approved by the Attorney General of the United States; and it was said at the time of the trial, by several gentlemen learned in the law, to be good; and that the very nature and meaning of the patent was, that the compounding and using the articles specified in manner therein set forth, was what I claimed as my invention.

There was, however, no other way for me to do, but to obtain another patent; and immediately after the above decision, I set about getting one that would meet the objections that had been made to the first. In making new specifications, I had the assistance of several gentlemen of the law, and others, and every precaution was taken to have them according to law; but whether my second patent will be

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more successful than the first, time must determine. It embraces the six numbers, composition or vegetable powders, nerve powder, and the application of steam to raise perspiration; and to put my claim beyond doubt, I added at the end as follows, viz.: "The preparing and compounding the foregoing vegetable medicines, in manner as herein described, and the administering them to cure disease, as herein mentioned, together with the use of steam to produce perspiration, I claim as my own invention." My second patent is dated January 23, 1823.

Enters Suit Against Elias Smith for Commission Money Due on Patents, Wins His Suit, and Rejoices in his Victory.

At the time I failed in my attempt against Elias Smith, in consequence of the decision against the correctness of the specifications of my patent, as has been before related, I had a number of notes for rights sold, among them were two against a person, who had previously expressed great zeal in my cause, for a right for himself, and one for his friend. During the pending of the trial, he took sides with Smith; and after the decision, came to the conclusion, or, as I suppose, was told by Smith, that the notes could not be collected by law, and refused to pay them. I did not wish to put him to cost, and therefore let the business rest, in hopes he would think better of it and pay me according to contract; but after waiting until the notes were nearly outlawed, and he still refusing to pay, I put one of them in suit, and the action was tried before the Boston Police Court. The defence set up was, that the contract was void, in consequence of the failure of the patent; and also that there was no value received.

The trial was before Mr. Justice Orne, and was managed by Mr. Morse, for the plaintiff, and Mr. Merrill, for the defendant. On this trial, as on all others in which I have been engaged, there seemed to be the same fixed prejudice against me and my system of practice. The Judge took several days to make up his judgment, and finally decided in my favor, giving me the full amount of my claim; thus settling the principle, that obligations given for family rights were good in law. This was the first time I have ever had a chance to prove the utility of my medicine and system of practice, before a court of law; having always before been prevented by some management of the court.

A writer has lately come forward and published a series of numbers in the Boston Patriot, under the title of "Eclectic," who appears well qualified, and seems disposed to do me and my system of practice justice, by laying before the people a correct view of my case.

ADDITIONS IN THE THIRD EDITION. 1831.

Appoints an Agent, John Locke, Who Turns Traitor and Unexpectedly Involves Thomson in Morgan's Masonic Controversy.

In all this time, I had never thought or mistrusted that there was a plot laid against me, either by him (Locke), my agent, or the committee, or with all combined, nor until about the end of the second year, which now seems but too obvious. Having recently returned from the West, I was at Mr. Locke's house, and showed him a newspaper which contained an account of the masonic outrage at Batavia. After reading it, he flew into a great passion, and accosted me as though I had made the story. I tried to argue the case with him; but in vain. He called me by as many hard names as he could well think of, and occasionally, the words "lie," and "fool," were in the compound.

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Another Agent, House, Now Refused to Pay his Commissions.

I have tried repeatedly to get a settlement with Col. House, my principal agent, but cannot effect it. He has paid me nothing for the large number of rights sold in about ten years, nor will he render any account. I know not how many books he has sold, as he took them whenever he wanted, in my absence. When I called on him last to settle, he said he had lost his account of credit. Here is the result of ten years agency! Besides which, I lent him and his partner, ten years ago, two hundred dollars, one of which he has paid in printing, the other he refuses to pay. I might mention many other circumstances which would go to show a decided hostility against me, and a determination to raise Mr. Locke, if possible at my expense; but I forbear, for they have neither built him up, nor put me down. I have paid no attention to all this opposition; but have kept on in a straight forward course, attending to the preparing of good medicine and supplying all those who wished for it.

Describes His Travels and Troubles, Tells of Counterfeit Books and Agents' Concerns.

Since my last edition was printed in Boston, I have been six times in and through the State of Ohio. In the year 1825, I appointed Charles Miles, as agent in Ohio, and furnished him with seventy-two books for family rights. On his way home he purchased a number of counterfeit books, of David Rogers, of Geneva, I understood about one hundred, more or less. He went down into the central part of the State, and in the course of eighteen months sold about ten thousand dollars worth of rights, and imposed on the inhabitants at a great rate. Some he sold for seventy-five dollars, some twenty-five, others twelve, and he would leave but one book for four rights. When he came round again, he would borrow my book and leave the other, and sell my book again to another set of four or five; and so continued until he had sold all mine, and nearly all the others. In the fall of 1826, Horton Howard caused a letter to be sent to me, giving an account of Miles's conduct, and requesting me to come on to see about it. I arrived in January, 1827, and, following after Miles, I found his conduct to be as had been stated. I published handbills, and otherwise showing that he had no authority from me to do as he had done. I revoked his agency, and pacified the rage of the people as well as I could, by restoring the family right to those to whom he had so improperly sold it, and besides this, I lost a great part of what he owed me.

Horton Howard, of Ohio, Prints Books, Sells Patent Rights to Thomson's Treatment and Keeps the Money, about \$80,000.

In January of the same year, I made Horton Howard agent for the Western country, with authority to print my book, and in three and a half years, he had printed about six thousand copies, and sold about four thousand rights, with the assistance of his sub-agents, amounting in all to about eighty thousand dollars. I tried at several different times to come to an honorable settlement with him, until August, 1830, at which time he utterly refused to give me an account from beginning. I then had but one alternative, either to bring an action against him in the court of chancery, or else take what he was willing to give. I chose the latter, by which I sacrificed about seven-eighths of what should have been coming to me. I took his notes for four thousand dollars, in two annual payments, two thousand dollars each year. I revoked his agency in two days afterwards, August 9, 1830, and ap-

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pointed four other agents in his stead, and took about two thousand copies of books, and left them with my other agents.

Reform Medical College Started in New York City and Another in Worthington, Ohio.* This Thomson considers "Villainous."

But the dernier resort of the doctors will be to get my practice into their own hands, and under their own management, if possible. Finding that I should succeed in my Botanic practice, certain individuals of them have set up what they call a reformed college, in New York, where they have adopted my practice as far as they could obtain a knowledge of it from those who had bought the right of me, and would forfeit their word and honor to give them instruction. And finding that the Botanic practice gained very fast at the West, they have established a branch of their reformed college in Worthington, Ohio. I saw Dr. Steel, last winter, who is the President of that Institution, I was introduced to him by Mr. Sealy, a member of the Senate, and Dr. Steel was introduced to me as President of said college. I asked him if he was President of that reform which was stolen from Thomson, in New York. This seemed to strike him dumb on the subject. At the same place, a few evenings after, I was introduced to one of the practitioners under this reform, who studied and was educated at the college in New York, and was one of the instructors at Worthington. I asked him if he ever saw any of my books in the college in New York. He said he had accidentally seen one there. I replied, then you accidentally confess that my books were studied in that college. I then asked him whether they used the lobelia. He said they did. I then named the cayenne, rheumatic drops, bayberry and nerve powders. He confessed they used them all in manner and form, as I had laid down in my books. I am, therefore, satisfied that if my medicine were taken from them, their Institution would not be worth one cent. But, to have bought the right, would have been too mean for such dignitaries; but, to steal it from a *quack*, was, perhaps, in their estimation, much more honorable!!! Every honest man who hears any of the doctors speak of those colleges with approbation, ought to upbraid them with these facts.

Sums Up and Closes His Narrative by Consoling Himself in that the Result of his Trials and Persecutions has been a Blessing to Humanity. Relates that He Has a Stock of Golden Seal and Madagascar Cayenne, and calls Attention to the Gross Adulterations in Commercial or "American Cayenne."

Thus I have given a few prominent items, though but a small proportion of my experience, sufferings, perplexities and difficulties, since the second edition of this work was published. But much of that which operated to my disadvantage, as an individual, served to extend the knowledge and practice of the system. This gives me consolation in the midst of all my trials; and considering the Botanical practice as being now well established, I think it is for me to retire from the field of contest and war with either learned ignorance or legal opposition.

I have collected about three hundred weight of the golden seal the year past, and a large quantity of cayenne from the island of Madagascar; nearly three tons. I have sent to the southern States nearly twenty barrels, floured, which is a great help in the ages of that country.

And here it is proper to remark, that great impositions are practised on what

*This, in 1845, was moved to Cincinnati, Ohio, its name changed to "The Eclectic Medical Institute." From that date to the present it has been uninterruptedly continuous and usually prosperous. (See Felter's History of the Eclectic Medical Institute.)

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is called the American cayenne. The doctors have declared it to be poison, and destructive to health, and I think they have made it as bad as they have represented it to be. It appears to be mixed with some red paint or mineral. When burnt, it leaves about two-thirds of the quantity, of the blackest substance. When taken inwardly, it produces violent vomiting, and ought to be shunned as a mad dog. There is but little or none sold at the groceries for ordinary purposes but of this kind. The only safe way to detect the poison, is to try it by burning. If it be pure, there will be a proportion of ashes as of other vegetables, and of a light color; if it be bad, the ashes will not only be black, but there will be double, and perhaps triple or quadruple the quantity there should be for the quantity burnt.

NOTICE.

I hereby appoint ABNER KNEELAND, editor of the Boston Investigator, Agent, generally, but not exclusively, throughout the United States, to receive and answer my letters, to sell the Rights to my Botanical System of Practice in Medicine, and my Books containing a Narrative of my Life and System of Practice, and to attend to all matters and things expressed or implied in the above agency, especially during my absence, the same as I should or could do if present, and the agencies of E. G. House and John Locke, are hereby revoked. SAMUEL THOMSON.

TO THE PUBLIC.

THE Subscriber having been appointed Agent for Dr. SAMUEL THOMSON, as above stated, all letters intended for the Doctor, may be addressed either to him or to the Subscriber, as all the Doctor's letters come into the box of the Investigator, and of course into the hands of the Subscriber, who will keep Family Rights, with the Books containing the System of Practice, constantly for sale at the Investigator Office; and who will appoint sub-agents, with the advice and consent of the Doctor, when, and wherever they shall be thought necessary, and will also keep the Medicine for sale at the same prices, and as low as it can be bought of the Patentee, and the patronage in this line, which the public are disposed to give, will be gratefully received by the public's obedient servant,

ABNER KNEELAND.

I will here relate an anecdote, which may be of use to some. At the time of my taking up my first large hive, we asked some neighbors in, to eat honey. I gave away about one hundred weight of honey, with biscuit and butter answerable. Before the season came round, I bought a few pounds in presence of one of the men who partook most liberally of the bounty. He asked, "Have you got rid of all your honey?" I replied, "Yes." "Why," said he, "you should not have been such a fool as to have given it all away." Here I made a notch in my memory. The next fall I took up my bees, and carried honey enough to Walpole, to fetch ten dollars. This I thought better than to be twitted for giving it away. However, in the course of the fall, I was in company with the same man; he asked, "Have you taken up your bees?" "Yes," was the answer. He rejoined, "And did you ask in the neighbors to eat honey?" My answer was, "No; I carried it to Walpole and sold it." He replied, "Why, they say you are a *hog* for not asking them."

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I replied, "You have learned me a lesson, which I had not thought of; when I gave my honey all away, I was a *fool*; and when I kept it, I was a *hog*; therefore, unless I am a hog at least half of the time, I cannot live." The conclusion is this. When a man begins the world, if he means to escape censure, he must observe a proper medium between being a *hog* and a *fool*, in the estimation of his neighbors, but if he has any thing which to them will be as sweet as honey, he must not keep all, nor give all away.—[A specimen of Thomson's philosophy.]

Now, reader, just take a general survey of the calamities of the world. The condition of a great portion of mankind is truly deplorable, and has been ever since the healing art was lost, and the plants and herbs of the field and forest ceased to be used as medicine; and since poison minerals of the rankest dye were substituted in their stead by Paracelsus, who in consequence was called a *hater of mankind*. Dr. Robinson says, "Paracelsus gave the tartrate of antimony, because it burnt up the stomach and lungs like hell fire." If this expression be true, I think it sufficient to prove the truth of his being a hater of mankind. In addition to this physic dealer and hater of mankind, comes Sydenham, who introduced bleeding to cure disease. These two plagues being joined in matrimony, against the life and health of mankind, I think, have caused the greatest plagues that ever infested the earth. The writer says that after Sydenham introduced bleeding into the practice of physic, in the space of one hundred years, "more died with the lancet alone, than all that perished by war in that time."—[A specimen of Thomson's opinion of "Fashionable Medicine" and its effects.]

WHO DISCOVERED AND INTRODUCED LOBELIA?

[Benjamin Waterhouse, M. D., Professor of the Theory and Practice of
Medicine, Cambridge University, Discourses on
Thomson and His Crusade.]

The record of plain-spoken Samuel Thomson, his aggressive exposures of the evil results of orthodox medication, his persistent attacks on individuals who practiced medicine "by authority," together with the facts concerning it all so potent at that date to the people at large, led to the tremendous rebellion against cruelty to the sick, that for half a century swept over America. Not all the legalized medical profession, however, were Thomson's antagonists, nor were they all unfriendly to his cause. The talented Dr. Manasseh Cutler, as has been shown, testified in his behalf, and the scholarly Professor Tully, M. D., of Yale, believed in kindly American remedies instead of the vicious heroics that authoritatively then prevailed.

In this direction the celebrated Professor Benjamin Waterhouse, M. D., Professor of the Theory and Practice of Medicine, Cambridge University, openly advocated the recognition of Thomson and pleaded that credit be given him both for his efforts and for his discoveries. With a view of presenting this side of the question fairly, we append to the narrative a few letters by Dr. Waterhouse that properly are by reference connected therewith. In addition, they have a historical bearing on the question of "Who discovered and introduced lobelia." These letters also enter into the subject of *Quackery*, which Dr. Waterhouse defines, to Thomson's credit.

To the Editor of the Boston Courier:

I have lately read, with considerable interest and some surprise, a little volume of nearly 200 pages, entitled, "A Narrative of the Life and Medical Discoveries of Samuel Thomson, containing an account of his System of Practice, and manner of Curing Diseases with Vegetable Medicines upon a Plan entirely New;" to which is added his New Guide to Health, containing the principles upon which the system is founded.

While reading the book, I said to those who recommended it to my perusal, this man is no "Quack." He narrates his medical discoveries, gives an account of his system of practice, together with his manner of curing diseases, upon a plan confessedly new; to which he adds the principles on which his new system is founded. He who does this is no Charlatan, but by uniting theory to practice, merits atten-

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tion. With these ideas of cultivation and promulgation of human knowledge, I read the narrative of Samuel Thomson, and soon perceived that he was a man of good capacity, persevering temper, and benevolent disposition; and then he acquired his knowledge of the hitherto unknown virtues of certain plants by experiments, first on himself, and then on those about him. In the course of twenty or thirty years, he arranged his experimental knowledge into a system, as did the father of physic before him, however imperfect; and, having done this to the best of his power, (for he had no literary education,) he published the result of his experience, labor and thoughts to the world, for it to judge of them and of him.

Auto Biography is a profitable species of writing to the world, but dangerous to the writer himself, especially if a professional man, or a political partizan; before he can gain credit for one honorable motive, every sinister object that can be imagined will be laid to his account. Who, among his competitors, will exercise that impartiality on hearing his story, which they require of him in relating it? Narrow minded jealousy will pervert everything. We may allow for a little high coloring in controversy with rivals—very few physicians or divines are free from it; but if Samuel Thomson, in the narrative of his life, has not turned aside from facts, he has been unjustly treated, and, in some instances, most cruelly persecuted. He has given names, dates, places and events, and spoken of judges, sheriffs, jailors and witnesses, in a style so plain as to exclude equivocation; and the same of a noted preacher. If what he said of them be false, he ought to be exposed and publicly punished; if true, he merits protection. His discoveries, are valuable or insignificant; his practices, a nuisance or a benefit; his writings, useful, or a tissue of lies and calumnies; his Patent, honorable, or a disgrace to our government; and it is not beneath the dignity of any physician, divine, or philosopher, to inquire into the truth of a series of experiments published with so much confidence, and purporting to be for the benefit of mankind.

I have no doubt that Samuel Thomson has added a very valuable article to the *Materia Medica*, and that he has again and again relieved the sick where others have failed. From all that I can recollect, I am induced to believe that he is not an avaricious man, but one who is more flattered by success in relieving the sick than in receiving their money. This at least, entitles him to a fair and patient hearing. It is possible he may have deceived himself, but it does not appear that he has laid himself out like a conjurer, to deceive others. If this man has devoted the greater part of his life to the relief of his fellow-men, his labors claim respect, and his errors our indulgence; for who of us are free from them? Let the unprejudiced man, who reads his *Narrative and Guide to Health*, judge for himself; but should he boggle at his theory of heat and cold, let him remember that Thomson, without knowing it, has adopted a theory of Galen; and his idea of the preserving power of nature, the curer of disease and preserver of life, appears to be the same as that acknowledged by Hippocrates; but the writer could not express it in Greek.

Thomson is not a Quack, if by quack, we mean a vain, artful, tricking practitioner in physic. He is an Experimenter, who accumulates knowledge by his own experience. There was a sect among the ancients who assumed the appellation to distinguish themselves from dogmatists, who, without experience taught dogmas. If Samuel Thomson be a quack, he is a quack *sui generis*, for being an enemy to concealment, he tells all he knows in as plain a manner as he possibly can, and leaves you to form your own judgment, provided you divest yourself of the fashion of this world in physic, which, with priestcraft, is fast passing away.

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Read the book, men of New England, and after making due allowance for the author's condition, situation and provocations, judge whether such a man merits the persecution he has endured, and the treatment he has met with.

BENJAMIN WATERHOUSE.

Cambridge, Dec. 2, 1835.

To Samuel Thomson, Botanic Practitioner of Medicine.

Dear Sir:—To the questions put to me yesterday, I answer, that I remain firm in the opinion that you were the discoverer of the remarkable virtues of the *Lobelia inflata*, as a safe emetic, and other rare qualities in effectually detesting the stomach and intestines of foul and morbid matter—a prime object in the removal of all disorders consequent on imperfect digestion. The efficacy and safety of the vegetable I have had ample and repeated proofs of in a number of cases, and in my own person, and have reason to value it equal to any article in our *Materia Medica*.

That you yourself were the originator of this compound process, very extensively known under the title of the Thomsonian Practice or System, I have no doubt whatever. I mean the uniting the warm bath, with the thorough cleansing of the whole alimentary canal. I value and recommend it on this account. It effects in three or four days, what we regular physicians use to occupy as many weeks to accomplish. As a public teacher of the practice of physic, I have told my pupils for nearly half a century, past, that when they have learned how to restore the long impaired organs of digestion to their pristine or natural state, they have acquired two-thirds of their profession; and on that simple principle is based the whole doctrine of my printed lecture on the pernicious effect of smoking cigars, and the inordinate use of ardent spirits.

Furthermore: the regular physician finds it necessary sometimes to make a great change in the human frame, or to make a very strong counter irritation, so as to obliterate the morbid or destructive one. This used to be done by quicksilver, that is, mercury, in the various preparations; when pushed to a salivation it dilapidates, if we may so speak, or dissolves the human fluids, all of which are made up of globules, or round particles, on the crasis of which depends the vital integrity of our bodies, and of course, our health and vigor. After the hazardous process of salivation, the physician may, perhaps, be able to say, Now I have so far changed the morbid state of the patient, that his disease is conquered, and entirely overcome by the powerful operation of the mercury. But then in what condition does he find the sufferer? His teeth are loosened, his joints are weakened, his healthy condition is impaired, his voice is more feeble, and he is more susceptible of cold, and a damp state of the weather. His original disorder is, to be sure, overcome; but it is paying a great price for it. Secret history conceals from public notice innumerable victims of this sort.

Now, my sagacious, industrious, and much-respected Empiric, or Eclectic, if you like the latter term better, let us come to the point you seem to aim at, namely, my opinion on the whole.

I consider a man laboring under a chronic disease of some time standing, who has passed through one, two, three, (as the case may be) of your processes of the *lobelia emetic*, to be as much altered as the man who has gone through the very disagreeable and dangerous operation of mercurial salivation; and, if so, your discovery is highly valuable, and on this account it was that I spoke freely and strongly, in commendation of the new practice, and was not afraid nor ashamed

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to hail you as a Reformer, and to give you full credit, and, in this view, I have always considered you as standing on higher ground than Paracelsus, who was born in 1493.

As to the point of your originality, I will sum it up in as few words as I can—I regard you as a Tree, the root and trunk, of the Lobelia and vapor bath system conjoined; its limbs your immediate agents, and its leaves and fruit, the purchasers of the rights and privileges—all deriving their value from the Tree of knowledge; and, having said this, I have performed a grateful office, and I may add, to all around me, and remain, and hope ever to remain,

Your steady friend,

BENJAMIN WATERHOUSE.

Dr. Thomson was indicted before Chief Justice Parsons, for poisoning with lobelia, but the charge was of so frivolous a character that he was discharged without being put upon his defence. Here the affair should have rested; but Judge Parsons, to gratify a malicious disposition, made out a garbled report of the case, calculated to injure Dr. Thomson, and reflect discredit upon his system; and this report has now grown into a precedent, and is cited by the old faculty to prove that the Thomsonian remedies are pernicious. It was not known for many years that Parsons was the author of this report—no one suspecting him of such an act of baseness—but it was ultimately discovered by Col. House who addressed a letter to Mr. Tyng on the subject, and received the following answer, which is now in the possession of Dr. Waterhouse:

Cambridge, 11th Dec., 1835.

Dear Sir:—I have found the letter of Col. House. This is the copy of it, viz:—

Newburyport, 17th October, 1835.

"Sir:—Yours of yesterday came to hand by this morning's mail. In answer to your inquiry, I have to inform you, that the late Chief Justice Parsons compiled the report of the case of the Commonwealth vs. Thomson, and handed it to me, precisely in the words published, soon after the term of the court at which the case was tried.

"Your ob't. servant,

"DUDLEY A. TYNG.

"E. G. House, Esq., Boston."

The original is at your service, whenever you shall find it needful.

Were the case mine, (as much as I lament this lawsuit,) I should insist on your adverse lawyer to define Quackery—call on him to explain etymologically the derivation and origin of the word,—insist on his drawing the line where quackery ends, the proud science begins. Let your attorney tell his opponent that if Samuel Thomson was a quack, Hippocrates and all the Greek physicians were quacks, and all the Jewish ones also; and every Roman physician, not only through the entire Roman republic, but down through all the Roman emperors, and all the first ages of Christianity, and down through all the dark ages, and still long after the revival of letters of Italy. Prior to 1400 there were no regular schools of anatomy, and the science of chemistry was unknown, until the Arabians brought the medicinal chemistry into use. The art and practice of physic was the result of experience, and

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was a collection of facts delivered verbally from father to son, and from tutor to pupil.

Anterior to 1745, the study and practice of physic was very little variant, if any, from what Samuel Thomson, the Patriarch of the lobelia and steam system, has by great pains and labor accumulated during more than forty years of an industrious life. The most solid, immovable, and valuable portion of our art, is derived from experience; and the best qualification of it is sagacity, and the next to that is industry,—all of which the Patriarch, Samuel Thomson, possesses eminently. The scientific physician follows, and copies the rules of others, and that constitutes the learned physician; but Samuel Thomson studies the Book of Nature,—that is, the nature of man, and everything about him, as did the famous physicians among the ancients, and some of the best and most successful among the moderns.

Samuel Thomson restricts his means of cure to the vegetable kingdom, and rejects entirely the mineral one, all except water. I will not dispute with him. Let him stick to his system, and let us regulars profit by it, and in return it would enlarge his own useful knowledge. I confess I have learned several valuable things from his many experiments, and his severe scrutiny into the nature, qualities, and medicinal virtues of our own native plants.

I rank Samuel Thomson among discoverers, and respect him as such. He is not an imposter. He has an uncommon stock of natural knowledge, and enjoys the benefit of his discoveries and trials by the security of a patent. The vast West has been benefited by them, and they have been, in some degree, tributaries to him. I who introduced vaccination into America, in 1799, distributed the blessings everywhere in this new world, disclosed everything, and kept nothing back; but sacrificed my practice, and even my medical professorship, to that great discovery by which one of the greatest plagues that ever afflicted human nature, has been drawn from the condition of man. I never disputed, except in one instance, with any man or body of men, but gave to the public all my pains and labor. I beat the bush, but never laid myself out to catch the bird. I have the honor, others the profit—while others are unhappy in disputes and unprofitable contentions, I do not repent of my forbearance.

In one thing every thinking man must and will agree; for it admits of no dispute. It will be admitted as an axiom, namely—The Thomsonian practice has been diffused through New England between fifteen and twenty years, and still maintains its credit; and every year its roots strike deeper, and its branches spread wider and wider. Now make any man of due reflection believe that such a practice could have spread so wide among such a discerning, inquisitive people as we of New England certainly are, without having discovered its nothingness,—its worse than nothingness,—its vain and nonsensical pretensions. The thing is impossible. If the lobelia had been proved a worthless plant, it would have been years ago, "thrown like a lonesome weed away." On the contrary, I had rather be without that very nauseous powder, ipecac, which makes me spit while I write, than to be deprived of the more agreeable and efficacious Lobelia.

We import Ipecacuanha from South America, and sometimes use it after it has been a dozen or twenty years out of the ground, whereas we can cultivate the Lobelia in our own gardens, and pick it up in our own fields. I not only prescribe it to others, but I take it myself whenever I have any occasion for an emetic. I value it equally with the Peruvian bark, or with rhubarb, jalap or senna or any other medicinal plant you can mention. Instead of Lobelia, it ought in justice, in honor, and in gratitude, to be called Thomsonian emetica.

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But the discovery of the medicinal qualities of this indigenous plant, is not the sole merit or felicity of Samuel Thomson. His vapor-bath process, to which the Lobelia is the Prodigium, (or, in plain English, file-leader, or fore-runner,) is, taken together, a very valuable improvement in our practice, if conducted by persons as experienced and as sagacious as the Patriarch Thomson.

In England, Parliament would probably have purchased the procedure by a liberal grant. In France, at least under the old regime, the King would have bought it. But we, wiser than any of them, have only tried to pick it to pieces. Still I consider it a valuable anchor, the emblem of Hope, to which is attached a firm cable, that numbers have been trying in vain to pick to oakum; but which will, I trust, be like the strongly twisted cord that binds our happy States together, acquiring strength by age.

To weigh Patriarch Thomson in the scales of the regular physician would be as unjust as for them to be weighed by his steel-yards. They practice on different principles, feelings and views—each honest in his respective path of art and nature. They both will come out in the same road at last, and travel on together to the Temple of honor and profit.

Samuel Thomson, like most reformers, has endured in our county of Essex as much severe persecution as ever was perpetrated in it; which is saying a great deal, when we call to mind the days of the delusion of Witchcraft. Though capitally indicted for murder by using Lobelia, he was discharged without a trial, after something like a reprimand of the Solicitor-General by the Court. Yet it is remarkable that Chief-Justice Parsons deemed it worth while to write the report of it in the VI. Vol. of Tyng's collections.

I feel diffident and doubtful whether I have said too much or too little on a subject that will increase in importance with time. Reformers—originators, and exterminators of loathsome and shocking diseases, are always considered as benefactors of the whole human race—not merely those who are living, but of those who shall live after us, as long as letters and other records shall endure.

BENJ. WATERHOUSE.

Letter to Samuel L. Mitchell, M. D., L.L. D., of the city of New York:

Cambridge, Dec. 19th, 1835.

My Dear Sir:—Dr. Samuel Thomson, who has the honor of introducing the valuable Lobelia into use, and fully proved its efficacy and safety, will deliver you this. He has cured and relieved many disorders which others could not, without being a regular diplomatized physician, and dared to be a republican in a hot bed of federalism; for which he has been shamefully ill-treated, even to persecution.

I have aided and assisted Thomson from a firm belief that his novel practice has been beneficial to numbers, and that it may be placed among improvements. If he be a quack, he is a quack *ui generis*, for he proclaims his mode and means.—Had John Hunter, whom I knew well, been born and bred where Samuel Thomson was, he would have been just such another man, and had S. T. been thrown into the same society and associations as J. H. he would, in my opinion, have been his equal, with probably a wider range of thought; both are men of talents and originality of thought.

I am, indeed, so disgusted with learned quackery, that I take some interest in honest, humane and strong-minded empiricism; for it has done more for our art, in all ages and in all countries, than all the universities since the times of

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Charlemagne. Where, for goodness sake, did Hippocrates study?—air, earth, and water—man, his kindred—vegetable; disease and death, and all casualties and concomitants of humanity, were the pages he studied—every thing that surrounds and nourishes us, were the objects of his attention and study. In a word, he read diligently and sagaciously, the Great Book of Nature, instead of the little books of man as Thomson has.

How came your Legislature to pass so unconstitutional an act as that called the antiquack law? such as the Parliament of England would hardly have ventured on; for who will define quackery? Were I sufficiently acquainted with your Governor Clinton, I would write to him on the subject. You New-Yorkers are half a century behind us in theological science, but your quack bill looks as if you halted also in physic.

By what I have seen and learnt of Mr. Thomson, I wish him success, and the notice of the eminent and the liberal in the profession; and with these views I give him this rapidly-written letter to you, and am with a high degree of esteem and respect, his steady friend,

BENJ. WATERHOUSE.

To Samuel Thomson, Boston.

To the Editor of the Boston Courier:

I read in one of your late papers an article entitled, *The Battle of Doctors*, purporting to have been contested at Baltimore on Lyceum ground. The account seemed chiefly serious, but partly ludicrous. But as it related to the very serious subject of health and disease, or, in other words, life and death, I could not drive the narrative out of my mind. The practice of physic, I am bold to say, admits of great reform; yet it is no joke, and is really a subject worthy of the utmost attention of the people, and I have often reflected with surprise that it has been left at such loose ends in this state, where we scrutinize and find fault with every thing, and every profession, excepting that on which our comfort depends; for what are riches without health to enjoy them?

It seems that the Lyceum question was whether the Thomsonian practice ought to be encouraged? Now this includes another question, viz:—whether regular physicians ought to encourage it, or the people? If I mistake not, more than a million people in the United States have already answered the question and said—Let it be encouraged.

There arose a serious question in my mind—a question of honor and conscience, namely, ought I be silent on the solemn subject, or to give my opinion. I have determined on the latter; and that because I have received a considerable number of letters from Maryland, and further south, on the same subject, and as I have received some loaded with postage, the writers may receive the trifling value of my opinion without a cent's expense to them or me.

With due submission to that privileged body of physicians denominated through courtesy, the faculty, I should place Samuel Thomson among the reformers of the healing art.

The famous Galen dictated the laws of medicine full fourteen years after his death, by his, then, matchless writings. After the revival of letters, Paracelsus, who was born, 1493, in Switzerland, appeared as a reformer of the system of Galen. He was learned in Latin, Greek, and several other languages, and of respectable connexions. He first introduced mercury, (quicksilver,) antimony and

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opium into the *Materia Medica*; but he was arrogant, vain and profligate, and after living the life of a vagabond, died a confirmed sot. He studied mystery, and wrapped up his knowledge in terms of his own invention, so as to keep his knowledge confined to himself and a few chosen followers. The very reverse of Thomson, who performs numberless cures, and makes no secret of the means. The cant phrase of "Quack" belongs to the learned Paracelsus; but not to the mystery-hating Thomson, who considers mystery and roguery offsprings of the same father—the man of sin—the old father of lies and deception. If Thomson be a quack, he is a quack *sui generis*, or a cheat of a new and singular class.

BENJAMIN WATERHOUSE.

The following letter was written just before Dr. Thomson went to Washington to obtain his last patent:

To Samuel Thomson, Botanic Practitioner of Medicine.

Cambridge, March 26th, 1836.

Dear Sir:—In answer to your last letter, I would remark, that I continue to receive, from diverse quarters of our country, anxious inquiries with regard to my opinion of you, and your practice: to which I have uniformly said, that, as far as I know, you were the first person who discovered the remarkable medicinal virtues of the *Lobelia inflata*, even before you knew its systematic name, and called it the emetic weed; and that in consequence of the evidence adduced of its value, as a medicine, you obtained a patent for it, when the Hon. John Quincy Adams was Secretary of State, in which you were aided by the late Dr. Mitchell, and Dr. Thornton. Since then you have spread its value through a great part of the United States, and in a great degree silenced your opponents.

I have as little hesitation in saying, that I consider your joining to its exhibition the vapor bath, as a matter of no small importance, when carefully conducted by persons of sound judgment, and competent experience. I have entire confidence in the safety of the lobelia, and in the whole process, when conducted by the patriarch of the science, Samuel Thomson himself; for the practice is so far from being a trifling one, that I consider it in a class of Herculean remedies.

I wish the regular physician had a better opinion of the Thomsonian discoveries in the vegetable kingdom, and that the empiric practitioners had a better opinion of the regular or scientific physician. The conduct of Hippocrates is a bright example for both. Experience must be enlightened by reason and theory built upon close and accurate observation. The happy union of the two will form the consummate physician; while the desire of gain, and the ambition of celebrity, may injure both. You, my benevolent sir, have lived long enough in the world to be convinced how slowly beneficial discoveries are received and patronized, by the people, when they think that fame and fortune are the predominant motives of the discoverer.

Should it happen, that in your business at Washington, this letter should fall under the eye of that great and good man, Hon. John Quincy Adams, he will, at once, recognize the hand-writing of his old friend and correspondent.

BENJAMIN WATERHOUSE.

The foregoing letters and the friendship of many other talented men, neither allayed the antagonism that existed between Thomson and the Regular Medical Profession, nor prevented ignorant and ill-advised

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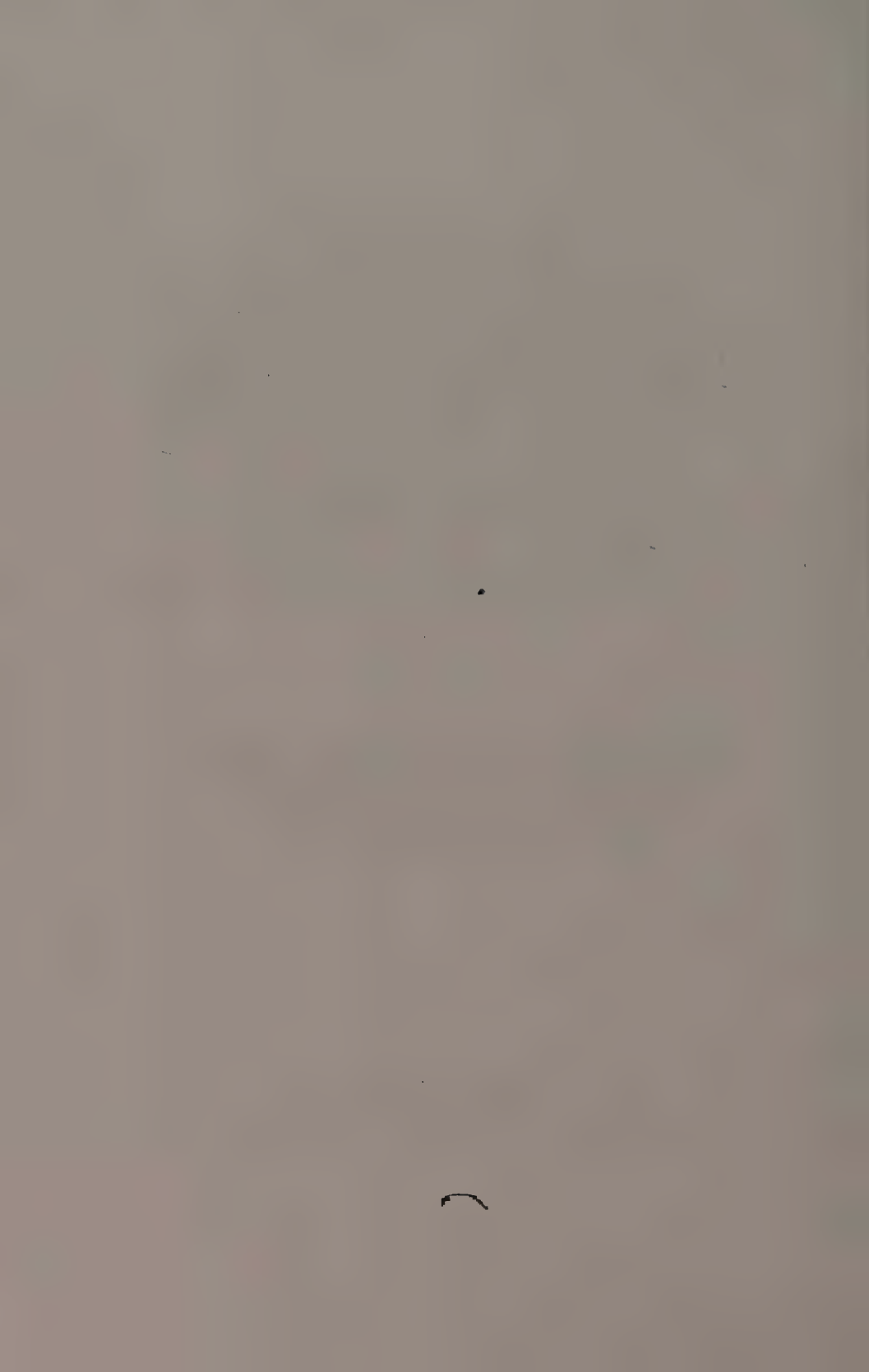
people from abusing therapeutic privileges and opportunities. In the name of Thomson, men and women, including statesmen, clergymen and scholars throughout America, repelled by the horrors of regular medication, but yet ignorant both of diseases and of the action of remedies, proclaimed themselves qualified to practice medicine by Thomson's Patent Right. The fanaticism and audacity of inexperience possessed them, but yet, necessity demanded that legalized persecution of the sick be circumvented. Among these Thomsonian enthusiasts was one whose trial became of National consequence; second only was it to that of his leader, Samuel Thomson, and as such needs be made a part of this record. From it we produce enough of the salient features, to clearly indicate not only its legal phases but to supply additional evidence concerning the rebellion of the people who had now by reason of the cruelty and viciousness of authoritative medicine, become aggressive protesters against the methods of the medical profession of America. This trial was celebrated as "The Trial of Dr. Frost."

TRIAL OF DR. FROST,
BEFORE THE COURT OF SESSIONS
FOR THE CITY AND COUNTY OF NEW YORK,
FOR MANSLAUGHTER,
ALLEGED TO HAVE BEEN COMMITTED ON TIBERIUS G. FRENCH
BY THE ADMINISTRATION OF CERTAIN
THOMSONIAN REMEDIES.
TO WHICH ARE ADDED THE SPEECHES OF
JOHN A. MORRILL AND DAVID PAUL BROWN, ESQRS.
FOR THE DEFENSE.

WITH AN APPENDIX.

Containing comments on the testimony, a history of the disgraceful conduct of the medical faculty during the trial, an affidavit exhibiting the baseness of Dr. Cheeseman; affidavits proving that one of the jurors was resolved upon the conviction of Dr. Frost, regardless of his oath or the evidence; a list of persons who died under treatment by the medical faculty; certificates of cures by the Thomsonian Treatment; letters of the Celebrated Professor Waterhouse of the Thomsonian System; and other matter of interest and importance.

PHILADELPHIA:
PUBLISHED BY A COMMITTEE OF THOMSONIANS.
1838.



THE TRIAL OF DR. FROST

In the height of Dr. Samuel Thomson's fame, came the "Trial of Dr. R. K. Frost," of New York, who, in 1837, was arrested for murdering Tiberius G. French by means of a Thomsonian course in Lobelia.

Dr. Frost conducted an infirmary in Howard Street, New York, to which French was taken for treatment. His death, the arrest of Dr. Frost, and the subsequent trial, made a tremendous sensation in both professional and lay circles throughout the entire country. Excitement ran high, engendering bitterness and vituperation second only to that bred by the celebrated Masonic Morgan incident. This trial occupied three full days in which an exceptional array of experts testified for and against the accused, among these being the celebrated Dr. Wooster Beach, the founder of Eclecticism, and antagonist of Thomson, but yet a strenuous opponent of the methods of the "Regulars."

An account of this trial, reported in full, in 1838, was published in pamphlet form by "A Committee of Thomsonians." It is very rare, but one copy existing to our knowledge, this being bound in "The Lobelia Advocate," a serial publication by Rev. John Rose, Baltimore, 1838 and 1839, of which also, no other than the Lloyd Library volume is known to us.

The aforesaid pamphlet, "Trial of Dr. Frost," together with comments, covers 104 pages. (See title-page, page 65.)

The quaint, almost grotesque indictment against Dr. Frost, is as follows:

City and County of New York, ss.

The jurors of the people of the state of New York, in and for the city and county of New York, on their oaths present that Richard K. Frost of the said city, not having the fear of God before his eyes, but moved and instigated by the devil, on the tenth day of October, in the year of our Lord one thousand eight hundred and thirty-seven, at the city and county aforesaid, with force and arms in and upon one Tiberius G. French, in the grace of God and the said people, then and there being feloniously and willfully did make an assault and feloniously and willfully did then and there administer unto and cause to be received by the said Tiberius G. French into the body and bowels of him, the said Tiberius G. French, a certain noxious and injurious clyster, which said clyster before that time, to wit: on the day and year aforesaid at the city aforesaid, had been prepared of various noxious and injurious and dangerous ingredients, that is to say of cayenne pepper and lobelia, by the said Richard K. Frost, and that he, the said Richard K. Frost did then and there feloniously and willfully administer unto the

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said Tiberius G. French, and did then and there feloniously and willfully apply unto and upon the breast, stomach, belly, and back, head, legs and arms of him, the said Tiberius G. French, a certain noxious and injurious hot vapor called steam, and did then and there feloniously and willfully keep and detain the said Tiberius G. French, under the application and action of the noxious and injurious hot vapor called steam, for a long space of time, to wit: for the space of three hours, and did then and there and whilst the said Tiberius G. French was under the application and vapor of the hot vapor aforesaid, feloniously and willfully administer unto and did then and there feloniously and willfully cause to be swallowed by him, the said Tiberius G. French, a certain noxious and injurious drug or herb, to wit: lobelia, and that he, the said Richard K. Frost, by administering the clyster aforesaid, the hot vapor aforesaid, called steam, and the injurious drug or herb aforesaid, did then and there cause and procure the said Tiberius G. French to become mortally sick and diseased in his body, and of which said mortal sickness and disease in his body he, the said Tiberius G. French, then and there died.

And so the jurors aforesaid upon their oaths do say and present that the said Richard K. Frost, in manner and form and by the means aforesaid, he the said Tiberius G. French, did then and there feloniously and willfully kill, contrary to the form of the statute in such case made and provided, and against the peace of the people of the state of New York and their dignity.

And the jurors aforesaid, upon their oaths aforesaid, do further present that the said Richard K. Frost, late of the city of New York, not having the fear of God before his eyes, but being moved and seduced by the instigation of the Devil, on the tenth day of October, in the year one thousand eight hundred and thirty-seven, with force and arms at the city aforesaid, in and upon one Tiberius G. French, in the peace of God and of the state then and there being, feloniously and willfully did make an assault and did then and there feloniously and willfully administer unto the said Tiberius G. French, and did then and there feloniously and willfully apply unto and upon the breast, stomach, belly, back, head, arms and legs of him, the said Tiberius G. French, a certain noxious and injurious hot vapor called steam, and then and there did feloniously and willfully keep and detain the said Tiberius G. French under the application and action of the noxious and injurious hot vapor aforesaid called steam, for a long space of time, to-wit: for the space of three hours, and that the said Richard K. Frost by administering and applying the aforesaid hot vapor called steam, as aforesaid, did then and there feloniously and willfully produce and cause a mortal congestion of the organs of him the said Tiberius G. French, of which said congestion of the organs of him the said Tiberius G. French, he the said Tiberius G. French then and there died. And so the jurors aforesaid, upon their oaths aforesaid, do say and present that the said Richard K. Frost in manner and form and by the means aforesaid, him the said Tiberius G. French did then and there feloniously and willfully kill contrary to the form of the statute in such case made and provided and against the peace, government and dignity of the state.

And the jurors aforesaid, upon their oaths aforesaid, do say and present that the said Richard K. Frost of the city of New York aforesaid, not having the fear of God before his eyes, but being moved and seduced by the instigation of the Devil, on the tenth day of October in the year of our Lord one thousand eight hundred and thirty-seven, with force and arms at the said city and county of New York aforesaid, in and upon one Tiberius G. French in the peace of God and of

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the said people then and there being feloniously, wickedly and willfully did make an assault and did then and there feloniously, wickedly and willfully administer unto and cause or procure to be swallowed by him, the said Tiberius G. French aforesaid, a certain tincture, infusion, decoction or tea of the poisonous, noxious and deleterious drug or herb aforesaid, called lobelia, and did also administer or cause and procure to be administered unto the said Tiberius G. French aforesaid, and did cause or procure to be swallowed by the said Tiberius G. French, certain pills, composed of noxious, deleterious and poisonous ingredients, of which said pills the noxious and poisonous herb or drug aforesaid to wit: lobelia, was part and parcel, together with other noxious, poisonous and deleterious drugs, herbs and ingredients unknown, by means of the taking of which said pills and tincture, decoction, infusion or tea aforesaid, into the stomach and bowels of the said Tiberius G. French, became mortally sick and then and there died.

And so the jurors aforesaid upon their oaths aforesaid do say that the said Richard K. Frost in manner and form said and by the means aforesaid by him, the said Tiberius G. French did then and there feloniously, willfully and wickedly kill contrary to the form of the statute in such case made and provided, and against the people of the state of New York and their dignity.

The introduction of the trial and opening for the prosecution was as follows:

This extraordinary trial, in which the medical faculty were arrayed against the Thomsonians, commenced before the Court of Sessions, for the city and county of New York, on Wednesday, December 13, 1837.

Present, Recorder Riker, and Aldermen Acker and Taylor.

Counsel for the prosecution, Mr. Phenix, District Attorney, and Mr. Griffin.

For the accused, John A. Morrill, Esq., of New York, and David Paul Brown, Esq., of Philadelphia.

The Court opened at 12 o'clock, and after the usual preliminaries, (the reading of the indictment excepted,) the following jury was empanelled:

John Jackson,	Joseph Wildey,
John D. Meyers,	James E. Wood,
Smith Dunning,	Nathaniel Mead,
Abel Price,	Mahlon Chichester,
Samuel Van Saun,	Charles B. Mease,
John Roshore,	Samuel M'Clintock.

Mr. Phenix proceeded to open the cause for the prosecution. He spoke of it as one of vital importance to the community. He said that the accused stood indicted for the crime of manslaughter—that he had been complained of for taking away the life of Tiberius G. French, a very promising and valuable young man, who was not greatly afflicted with disease—that the accused had no medical education, and was entirely ignorant of the nature and operation of remedial agents—that he had wofully abused the confidence of the deceased by giving him deleterious herbs which no reasonable man would administer to a dog—that he had put him into a vapour bath and administered poisonous concoctions of lobelia, together with pills and clysters—that the deceased had died in five days after he put himself under the treatment of Dr. Frost—that he felt it his duty to urge a conviction of manslaughter, in order that an example might be made of the accused.

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Mr. Phenix read from the Revised Statutes of New York, explaining to the jury what was to be understood by the term manslaughter, adding, that it would be for them to say in what degree the accused should be found guilty. The examination of witnesses commenced.

The brother of the victim, testified concerning the treatment as follows:

Ulysses D. French, Sworn. The deceased was my brother. He died on the 10th of October last. He was at my office on Thursday, the 5th of October; he had been complaining a day or two previous of a cold, said he felt chilly, and had a pain in his head. I am an Attorney at Law, 54 Howard Street; my brother was a Student with me, and a Teacher in the Grammar School of Columbia College. He was between eighteen and nineteen years of age. He placed himself under R. K. Frost, who is at the head of Thomson Infirmary in Howard Street. He went to the Infirmary on Thursday, October 5th at seven, P. M. I called on my brother the following day, (Friday,) at about seven in the evening; called next day, (Saturday) a little before dark; and again at nine o'clock P. M., in company with Dr. Davids; my brother was in the room where the vapor bath is administered; he complained of pain, had fever, and vomited much during the day. Drs. Frost and Davids were present; my brother had taken a course—can't say what particular medicine was taken. Dr. Frost said that he had given a lobelia emetic, which vomited powerfully. Dr. Frost said the disease was a cold which he could break up in a day or two. He told us also that he had given the deceased a "course of medicine" of which he had previously given me an explanation. In a course, composition tea is first given; patient is then put into a steam bath; composition tea is administered in the meantime; patient is kept in the bath ten or fifteen minutes, after which the shower is administered. Dr. Frost said that this was the usual treatment in all diseases.

Recorder. Droopy, Consumption and all?

Witness. I believe so.

Recorder. What is this lobelia?

Phenix. We'll come to that by and by.

I asked my brother if he had taken any nourishment; he said he had taken some composition tea—it was nothing but composition tea, composition tea—he believed he had taken two pails full. On Saturday evening I found my brother in the back room slightly delirious. I left at half past seven o'clock. At nine o'clock I was called for by Dr. Davids; I found my brother in high fever; he was delirious, complained of constipation of the bowels, and spoke of taking physic.

Dr. Davids urged the propriety of taking a cathartic; Dr. Frost said he never gave cathartics; he was fearful if the bowels were once opened that he could not stop the operation; another reason against cathartics was that he had given injections; lobelia and composition tea were in the injections; he gave four or five injections while I was there in another room; didn't see them given; this was on Saturday night; the injections were given within four or five hours. I staid until four o'clock on Sunday morning; went away and returned same morning between eight and nine o'clock. Dr. Frost said that he had given an emetic on Sunday and another on Monday, said it was lobelia, said on Monday he had given a powerful dose. Tuesday morning my brother was feverish, more delirious than on the previous evening, but rational at times. I told Dr. Frost I had no

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confidence in the Thomsonian system; I wished him to say whether he lacked confidence himself, and I would call a regular physician., Dr. Frost laughed at my timidity. My brother was better on Monday morning; on Monday evening he was in great agony; Dr. Frost said that he had given a powerful dose of lobelia, and ascribed the symptoms to the emetic. I left the patient at about three or four in the morning, and saw him again at about nine or ten o'clock; he was in fever and delirious; I thought he knew me at times; he wished me to keep away from him, and accused me of being the cause of his distress; I ordered all medicines to be discontinued; this was on Sunday evening; thought I would trust to his constitution to throw off the disease; thought the system was depleting; Dr. Frost said it was strenghtening. I went to my office at four o'clock and returned at dusk; found deceased had been bleeding at the nose; ice had been put around him to prevent the bleeding; we had him put into another bed; bed clothes were changed and he was put back; I proposed to send for a regular physician; told Frost the patient was dying, Frost said there was no danger; went for Dr. Cheeseman about nine o'clock in the evening; Dr. Frost wished me to inform Dr. Cheeseman that he was under the influence of lobelia. My brother was a remarkably healthy young man, the very picture of health.

Dr. Frost and Dr. Rolston took turns in giving the medicine; I was in the house when he died, not in the sick room; the last thing given by Dr. Frost was composition tea, given I think on the morning of his death; he died at ten o'clock on Tuesday night.

Among the witnesses was the aforementioned Dr. Wooster Beach, whose testimony, in view of his reputation as a reformer and yet opponent of Thomson and his connection with Eclecticism is very important. It is as follows:

Dr. Wooster Beach, sworn. I am a physician, have practised about twenty years in New York, on what is termed the reformed system; have studied the ordinary practise; have a diploma as a regular physician; have practised on the reformed system exclusively; I know lobelia; and have written a work on medicine, in which I have mentioned the plant; there are three species of lobelia; lobelia inflata, lobelia syphilitica, and lobelia cardinalis; the lobelia inflata grows about two feet high, and bears pale blue flowers; the leaves are small; it does not resemble flax, as has been stated by another witness; don't recollect the flower of the lobelia cardinalis, never used it nor the syphilitica; the lobelia inflata is the only kind I have used; it acts as an emetic and strong stimulant; I usually combine it with other articles; I give from half a drachm to a drachm, with an equal quantity of ipecacuanha; have given one hundred and twenty grains in its pure state, in the course of an hour, with a very favorable effect; it is a good remedy in the incipient stage of fever, and perhaps in the progress of fever, if judiciously used; never used it in cholera; it might be used in cholera with advantage; internally I administer vegetable remedies almost exclusively; I never use minerals; have used lobelia from the commencement of my practice, and never knew it to produce injurious results; have known it to be prostrating when used alone, and for that reason combine it with other articles; have no particular knowledge of Dr. Frost; have some knowledge of the Thomsonian practise, but have never adopted it; cayenne is a pure stimulant, it is used with benefit as a gargle in putrid sore throat; beth root is an innocent astringent, a tablespoonful

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would produce, I apprehend, no serious results; valerian is innocent, so is poplar bark, which is a tonic; sumach is a safe medicine; these medicines all possess more or less medicinal properties; it is difficult to test vegetable substances after they have been introduced into the stomach; there is no proper test, strictly speaking, for lobelia; some tests have been made, but not satisfactory; lobelia is not as destructive as mercury in any form or to any constitution; it is not the fact that no regular physician declines the use of mercury; a very considerable proportion object to its use, and altogether discard it; the most distinguished physicians in Europe and America have abandoned it; treatise upon treatise have been written against its use, and enough to induce any reasonable person to discard it forever; the younger physicians use it more than the older; the system is pretty much a new one, and was introduced about fifty years ago; bayberry is alterative, and astringent; ginger is stimulating, and may be taken safely in sickness or in health; I know of no medicine in the Thomsonian Materia Medica, which is a poison within itself; they are all good, if properly used.

Cross-examined. I know the treatment resorted to by Dr. Frost from the testimony adduced; he differs from me as regards lobelia, I have heard of the different modes, times and quantities that lobelia was administered to the deceased; it does not correspond with my principles, but it is common for physicians to differ; it has not been my practise to use lobelia alone; I have given eighty grains with the same amount of ipecacuanha in an infusion of eupatorium, repeated if necessary every half hour; this combination was to render the lobelia more certain in its operation; I have sometimes found lobelia not so certain in its operation as I could wish; have known it to act as a laxative; would depend upon the quantity given whether it would destroy the action of the stomach or not; if injudiciously given it might prove injurious, but how I cannot say. Have been acquainted with the Thomsonian Treatment for years; have seen lobelia given unmixed; know what a course of medicine is; would consider the treatment in French's case, according to my principles, as injudicious; the first course might have been good, but a repetition I should consider injudicious; should think it was too stimulating, too exciting; it might or it might not have produced death; disease might have taken off the deceased; the treatment might have taken him off; no human being can say with certainty; after the first course I think the treatment would have increased the disease; it is only my opinion; good reasons may be given for an opposite opinion; don't administer lobelia in all diseases; think it would be destructive in some diseases, if given in sufficient quantities; so with the best of medicines we have. Cannot say what would be the effect of a powerful dose of lobelia where there was delirium or great prostration. Doubt whether it would produce death, but have never seen the operation of lobelia under such circumstances.

To Mr. Brown. Checking perspiration, as described to have been done by Dr. Cheeseman, would prove injurious; a vast proportion of diseases are imputed to checked perspiration; it would be more injurious in a diseased than in a healthy condition; it might produce death, might prove fatal in a short time if the patient was very low or prostrate; with regard to the various grades of fevers I agree with the faculty; but I give vegetable instead of mineral remedies.

In slight attacks the Thomsonians use composition tea; in violent diseases they give the courses; I never practised according to their system; my knowledge is derived from books.

To Mr. Phenix. I deem it necessary to understand a disease before I admin-

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later medicine. It is immaterial how knowledge is acquired, provided it be in possession. Sometimes it is difficult to distinguish between diseases in their incipient stages; during this time we treat them on general principles. In my own practice, I first ascertain the disease before I administer remedies. I formerly bled for pleurisy, but have not of late years. My system is the reformed system. The indications of cure are the same as with the old faculty; I administer innocent remedies in every progress of disease; don't use salts; it enters into one of my combinations, but is rarely used; I make use of the alkalies, carbonate of potash, and bicarbonate of potash, usually termed saleratus; they can scarcely be classed with minerals. Saratoga water may be beneficial in some cases; have not been in the habit of using them; the principles of the reformed system are similar to those of the regular or old school system, except that in the former, all mineral poisons are excluded.

To Mr. Brown. It is difficult to distinguish between fevers at their commencement; when we don't know what type the fever will assume, we treat it on general principles; purgatives and emetics are equally applicable in the commencement. I use a vegetable caustic to remove tumors. My remedies are active but do not destroy the system. The vegetable kingdom contains all the necessary remedial agents; and I only wish mankind would get their eyes open to the difference between the vegetable and mineral practice. (Great applause.)

In the course of the trial, the question of whether Lobelia is a poison arose. The evidence of Pardon Lapham is of interest because of the heroic dose of lobelia that "did not kill."

Cross-examined. Have followed the Thomsonian practice about ten years for a livelihood. Got my information by buying a book. Have a knowledge of diseases as laid down by Dr. Thomson. We give cayenne as a stimulant, and lobelia as a stimulant. We give them both together because the action of the lobelia is like a fire kindled up with shavings, which soon goes out unless there is something to back it up; cayenne is administered for this purpose.

Recorder. How much lobelia would it take to kill a man?

Witness. I said that I had given a half a pound, and that it did not kill.

Then came the charge of the Judge, who closed his lengthy address to the jury in the following words:

You must, gentlemen, do the prisoner justice. Weigh every fact that makes in his favor—weigh also all that makes against him. If you have good and sound doubts that he did not shorten the life of young French, you must acquit him. If on the other hand you believe that he did, you must find him guilty, whatever be the consequences to him or to others.

You owe much to society for the faithful discharge of your high and important functions in this cause—you owe much to the prisoner. You owe it to the whole community, your country and your God, that you deliberate carefully and decide justly on the guilt or innocence of the prisoner. Pursue common sense as your guide,

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gentlemen, and render such a verdict as will justify you to the prisoner, to your own conscience, your country, and your God.

Give way, gentlemen, to nothing but a love of justice—retire to the jury room and interchange your sentiments in an amicable manner, hear one another with calmness, weigh everything carefully, submit everything to a test of common sense, and render such a verdict as in your conscience you believe to be just and right!

Finally, after four hours' deliberation, the jury returned to the Court with a verdict of,—

GUILTY OF MANSLAUGHTER IN THE FOURTH DEGREE, accompanied with a recommendation of the accused to mercy.

Mr. Morrill moved an arrest of judgment on the ground that the accused had never been arraigned, nor the indictment read to him.

Mr. Phenix said that there was a statute for the cure of all such informalities, and that the legality of the proceedings could not be questioned.

Mr. Morrill replied that he had other grounds for his motion of arrest, but what he had stated, he deemed sufficient for the present.

The Court replied that the motion should receive due consideration at the ensuing term, and, meanwhile, the **PRISONER MIGHT GO AT LIBERTY UNTIL A DECISION WAS MADE.**

The Recorder THEN THANKED THE JURY FOR THEIR VERDICT, AND SAID THAT IT WAS IN ACCORDANCE WITH THE LAW, AND RECEIVED THE UNANIMOUS APPROBATION OF THE COURT!

Thus ended this most famous trial which, together with that of Thomson, created more interest in early reform American medicine than perhaps all other influences combined. Let us now pass to the *Materia Medica* adopted by Thomson and his followers.

THE THOMSONIAN REMEDIES, TREATMENT OF DISEASE, AND THE FAMOUS THOMSONIAN "COURSE OF MEDICATION"

The *Materia Medica* of the early followers of Samuel Thomson consisted of botanical products and combinations thereof. The aim was to exclude all poisons, in which list lobelia was not by them included. Their remedies, therefore, excluded such energetics as podophyllum, sanguinaria, rhus, etc., which became important agents with Beach and his followers, the Eclectics. Whilst the Thomsonians rejected mineral salts and the inorganics, these substances were conservatively employed in Eclecticism. These facts have not been generally understood, many physicians and others, who should know better, maintaining that Eclectics used only botanical remedies.

In order that the Thomsonian *Materia Medica* may be authoritatively recorded in our Bulletin, we reproduce from *The Lobelia Advocate*, 1838, an editorial commenting on this subject, followed by a complete list of the plants used by Thomson and his followers, which also is reproduced by us in full, in the terms employed in the original.

THOMSONIAN MATERIA MEDICA.

Many false and wholly erroneous notions have heretofore existed, and still do, to a considerable extent, with regard to the articles used by Thomsonian practitioners as remedial agents, both as regards their medicinal properties and the number used.

It is believed by many honest, well-meaning individuals, (those, of course, who are wholly ignorant of Thomsonianism,) that the articles used in the Thomsonian *Materia Medica*, are of the most deleterious and poisonous nature—that Thomsonian practitioners use but one or two articles *in all*, and that the same articles are given in all cases, whatever may be the form of disease; that steam, cayenne, and lobelia, constitute the *Materia Medica* of the Thomsonian system of medical practice, and that they are very dangerous, and neither of them can be used without great danger to the patient. Now we do not censure folks who thus believe and talk, because we believe they do it ignorantly, yet we do most sincerely pity their ignorance and credulity, for believing the vague and foolish stories of those who are prejudiced and interested, for we lay it down as an indisputable truth, that none but the ignorant, (that is, ignorant of Thomsonism,) interested and prejudiced, ever speak against the Botanic practice, and for the especial benefit of such as are in the habit of talking thus ignorantly and foolishly, we shall make the three following declarations, viz: 1st. Thomsonian physicians use in their ordinary practice of medicine a greater number of distinct

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and separate substances, than the mineralites do. 2d. Thomsonian physicians make and use in their ordinary course of practice a greater number of mixtures from their greater number of simples, than the mineralites do. 3d. There is no article or plant ever recommended by Dr. Samuel Thomson as a remedial agent—there is none contained in his *Materia Medica*, or used by those who bear his name, or practice upon his system, which contains a particle of narcotine or poison, and which does not harmonize with the laws of life, and aid nature in her efforts to overcome the disease and restore the patient—the exaggerations, misrepresentations, false reports, and downright lies of the enemies of the system to the contrary notwithstanding. And in order that the public may be enabled to judge for themselves as to the facts in this matter, and see who is right, we subjoin a list of all the principal articles (that is, plants,) used by the Botanic practitioners, and we earnestly solicit the public, one and all, to examine for themselves, and as soon as any person, ("scientific" M. D.'s not excepted) shall have discovered any poison or narcotic in the list, we shall thank them to inform us of their discovery, for we say decidedly, and without fear of contradiction, that there is no article used by Dr. Thomson or his followers, which might not be eaten by spoonfuls like food, and produce no other effects than nausea, vomiting, or purging.

The following is a list of plants:

(Common)	(Technical)
1. Lobelia	Lobelia Inflata
2. Cayenne	Capsicum Annum
3. Bayberry	Myrica Cerifera
4. Pond Lily	Nymphia Odorata
5. Hemlock	Abies
6. Sumach	Rhus Glabrum
7. Witch Hazel	Hamamelis Virginica
8. Sweet Briar	Rubus Strigosus
9. Poplar	Populus
10. Squaw Weed	Erigeron Purpureum
11. Balmony	Chelone Glabra
12. Barberry	Berberis Vulgaris
13. Peach Kernels	Amygdalus Persica
14. Bitter Root	Apocynum Androseemifolium
15. Ohio Kercuma	Frasera Verticillata
16. Yellow Root	Hydrastis Canadensis
17. Cherry Kerpels	Prunes Virginiana
18. Valerian	Cypripedium Pubescens
19. Myrrh	Myrrha
20. Ginger	Zingiber Amonum
21. Black Pepper	Piper Nigrum
22. Camphor	Camphora
23. Turpentine	Terebinthinae
24. Peppermint	Mentha Peperita
25. Spear Mint	Mentha Veridis
26. Summer Savory	Saturciae Hortensis
27. Pennyroyal	Hedeoma Pulegiordes
28. Hoarhound	Marrubium Vulgare
29. Elecampene	Inula Helenium

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(Common)	(Technical)
30. Mayweed	Anthemis Cotula
31. Wormwood	Artimisia Absymthium
32. Tansy	Tanacetum Vulgare
33. Chamomile	Anthemis Nobilis
34. Mullen	Verbascum Thapsus
35. Burdock	Articum Lappa
36. Featherfew	Matricaria Vulgaris
37. Black Birch	Betula Lenta
38. Bitter Sweet	Celastrus Scandens
39. Skunk Cabbage	Ictodes Fœtida
40. Wake Robbin	Arum Triphyllum
41. Boneset	Eupatorium Perfoliatum
42. Evan Root	Geum Virginianum
43. Clivers	Galium Verum at Aparine
44. Balsam Fir	Penies Balsamea
45. Slippery Elm	Ulmus Fulva
46. Va. Snake Root	Aristolochia Serpentaria
47. Mustard	Sinapis
48. Horse Radish	Cochleria Armoracia
49. Butternut	Juglans Cinerea
50. Blue Vervain	Verbena Hastata
51. White Vervain	Verbena Urticifolia
52. Sweet Golden Rod	Solidago Odora
53. Pipsisseway	Pyrola Umbellata
54. Bitter Thistle	Cnicus Officinalis
55. Yellow Dock	Rumex Crispus
56. Lovely Thistle	Carduus Benedictus
57. Prickley Ash	Xanthoxylon
58. Wild Lettuce	Pyrola Rotundifolia
59. Unicorn Root	Aletris Farinosa
60. Gold Thread	Coptis Trifolia
61. Archangel	Lycopus Virginicus
62. Balm of Gilead	Populus Candicans
63. Ginseng	Panax Quinquefolia
64. Meadow Fern	Myrica Gale
65. Red Clover	Trifolium Pratense

There are a few other unimportant plants used and recommended by Dr. Thomson, yet the above are the principal.

In connection with the foregoing list of remedies comes in proper sequence the opinions and theories Thomson held concerning disease and its cure. This includes descriptions of his "steaming" processes and his famous patented "Courses of medicine."

THE THOMSONIAN REMEDIES, TREATMENT OF DISEASE, AND "COURSE OF MEDICATION"

In Thomson's day, directions for treating disease were supplied by himself or his authorized agents when a patent right to practice by the Thomsonian method was purchased. Directions for making his preparations, as well as for gathering plants and purchasing drugs, were given as a part of the franchise.

Throughout America, agents who by authority of Thomson held the privilege of selling the patent right to practice, also carried stocks of drugs to sell to purchasers of the patent. These stocks were something very large, enough to surprise even dealers in drugs of the present day. They were also advertised to readers of Thomsonian literature, as is shown by the following reproductions of an advertisement in the "Lobelia Advocate," 1838:

DR. JOHN ROSE

Still offers to his friends, the Botanic remedies—such as are used by Botanic Physicians: Numbers 1, 2, 3, 4, 5 and 6, with Bayberry, Cloves Composition, &c. &c. &c. All genuine, and as responsible as any other establishment.

Westminster, June 30.

In like manner the "Botanic Medical Recorder," 1844, presents an advertisement which is of peculiar value in that it gives the prices then prevailing for well-known drugs of to-day, many of which were thus introduced to the trade.

MEDICINES.

We have a good stock of first-rate Medicines, which we will sell for cash cheaper than they have ever been bought in this city, except of ourselves. Among them are,

Lobelia Seed, per lb.,	\$1.00,	Ptelea, an excellent article,	.37½,
Lobelia Leaf,	.50,	Balmomy,	.62½,
Cayenne, first quality,	1.00,	Boneset, flowers,	.37½,
Cayenne, and quality, good,	.62½,	Cohosh, blue and black,	.62½,
Bayberry, very best,	.37½,	Wild Ginger, ground, excellent,	.75,
Ginger, first rate,	.37½,	Beth root,	.62½,
Hemlock,	.31¼,	Pleurisy root,	.50,
Raspberry, Witch Hazle,	.31¼,	Elm,	.31¼,
Composition,	.62½,	Golden Seal,	.40,
Bitters, spiced or plain,	.62½,	Nervine,	.62½,
Poplar,	.25,		

And most other articles used in our Practice. When large orders are sent, a small discount will be made on some of the above articles.

BOTANICO-MEDICAL COLLEGE,

South side third street, one door east of Broadway,
Cincinnati, O."

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The Thomsonian Treatment and "Courses of Medicine" may perhaps be no more authoritatively shown than by a verbatim reproduction of that section in "The Thomsonian Materia Medica," by Samuel Thomson, thirteenth edition:

RULES TO BE OBSERVED BY THE PRACTITIONER, IN THE TREATMENT OF DISEASE.

1. At the commencement of an attack of the disease, the first thing to be brought to mind should be, what has caused the attack, and how should it be treated, and how removed.

The "ways and means" cause much trouble and speculation with the patient, who should ever be alive to the best means for his future welfare.

2. One of the fundamental principles in the Thomsonian practice is, that all diseases originate from the same cause, directly or indirectly—that is, from the deranged state of the fluids of the body, by the absence of heat, or loss of vitality; which produces an over pressure or excess of circulation to the head, and a proportionate deficiency in the feet.

This creates derangement in the organs of sense, and a proportionate want of action with the digestive apparatus, by which the bowels become constipated, and the evacuations of the body are much obstructed, for want of the requisite action and equilibrium in the fluids, and the consequent order attendant upon such a state of things.

3. This derangement having been produced by the loss of vitality, or taking cold, and the consequent absence of heat at the lower extremities, and an excess at the head in the same degree, to bring about an equilibrium properly through the system, or to establish order where there is naught but disorder, is what we wish. To restore warmth to the feet and reduce the pressure upon the brain, by correcting digestion, promoting perspiration, and removing obstructions from the stomach, bowels, and their dependencies, is the proper mode to effect this object.

4. The best method yet discovered is a thorough Thomsonian course of medicine, when properly administered, which creates a healthy circulating medium in the lower extremities, equal with that of the head, and thus produces order and regularity both in body and mind.

5. The first knowledge with a practitioner should be to understand the principles or cause of the derangement, disease, or loss of heat; and secondly the proper course of treatment to bring the deranged parts to order by restoring the vitality, or heat, by the loss of which the whole man has become diseased.

6. There is no immediate danger in any case where the veins on the patient's hands and feet are full. This is the surest test by which a practitioner may determine whether or not his patient is doing well. Or a long and regular respiration will indicate the same state of the body, as well as a regular pulse.

DIRECTIONS FOR EQUALIZING THE CIRCULATION .

Through the system, which must be done in all cases of disease, to restore the patient to health.

In the first place, put the feet of the patient into water as hot as can be borne, increase the heat by adding water of a higher temperature until a copious perspiration is started on the forehead and in the palms of the hands; the patient may be

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in the bath if thought necessary; this will afford some relief. Then take brown emetic, cayenne, composition, and nerve powder, of each one teaspoonful, put them into one pint of boiling water and let them steep for ten minutes; sweeten with molasses, and let half the quantity be given as an injection, as hot as it can be borne, and let the patient retain it as long as possible. This will turn the excitement from the head downwards and sickness at the stomach will be produced. Then give a table spoonful of the tincture of lobelia and a small quantity of cayenne, in some simple tea, and if this does not produce sufficient vomiting repeat the dose.

The vomiting will be easy, the veins in the hands and feet will be filled, the head, in consequence of the equalization of the circulation, will be relieved, and the whole system will become quiet and easy.

Let these directions be strictly followed, and by so doing I hesitate not to say that three fourths of the attacks of the disease—such as colic, dysentery, quinsy, croup, pleurisy, head-ache, liver complaint, &c.—might immediately find relief. Let every practitioner lay up these remarks as valuable truths, to be observed in all cases where there is disease or derangement in the system, in attempting to afford relief or perform a cure.

Order must be brought about in the body by an equalization of the fluids, and it matters but little how that is effected—whether by a course of medicine, steaming, bathing the feet in hot water, an emetic, or stimulating with hot liquor, hot medicines, or any other course which will effect this relief on the system. To accomplish this successfully in the greatest number of cases is what constitutes the eminent physician.

STEAM OR VAPOR BATH.

Steaming is an important part of the Thomsonian practice. Many cases which prove too stubborn for the medicine unassisted by the vapor bath, are through its agency relieved. In all diseases where the vital heat has become so far exhausted as not to be rekindled by the administration of medicine, steaming is indispensably necessary. In all cases of suspended animation, a gentle bath and bathing the feet in hot water, should be immediately resorted to. In cases of falls and bruises, or accidents of the like, this treatment rarely if ever fails of affording relief. It is also useful in preventing sickness as well as in curing it.

When a person has taken a severe cold, and disease is rapidly getting hold of the system, a thorough steaming, as hereinafter directed, will frequently throw off the disorder. Always remember while giving the vapor bath, to keep up the internal heat, to prevent faintness; for which purpose give a tea of cayenne, or of any other warming or stimulating article, with occasionally wetting the patient's face and breast in tepid water.

The most convenient and effectual way to administer the bath is to have a box constructed for that purpose. The following plan is perhaps as good as any. Let the box be in the form of a closet, two feet four inches deep, two feet six inches wide, and six feet high. It should be elevated from the floor about six inches, by the means of blocks or legs. Let the bottom be made tight and in form of a sink, with a vessel underneath to receive the condensed water. The door may be five feet and a half high, and one foot ten inches wide, with a hole for ventilation (before which let a curtain be drawn) six by nine inches, about four feet from the bottom. Let the top be boarded tight, and at the bottom, immediately above the sink, let a portable floor, or a board eighteen or twenty inches wide, be supported by

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means of clefts fastened to the sides of the box, under which let the steam pass in by means of a lead pipe.

This portable floor will break the volume of the steam, cause it to ascend on all sides of the patient, and prevent its burning his feet. But where a box cannot be had, the following method may be adopted.

Have three or four stones or bricks heated, and let the patient sit in a chair, undressed, with a blanket around him, to confine the vapor and shield him from the air; then place a two gallon kettle with a concave bottom, with about one quart of water, between the feet inside of the blanket, put in one of the heated stones, and as soon as that begins to cool put in another, which continue to do till the patient is sufficiently warm, which will be in from ten to fifteen minutes.

The patient may stand during the operation in this way, instead of sitting, if able. But when too weak either to stand or sit over the steam, it may be administered in bed, by heating several bricks, wrapping them in wet cloths and placing them around him. Or a better plan is, to have a frame made, to place over the patient's body to elevate the covering, and then pass the steam into the bed by means of a pipe.

The method of producing the steam, in order to administer the bath in the first and last mentioned ways, may be as follows: Have a tin or copper boiler constructed in form of a cylinder, in such a manner as for the heat to pass up through the centre, and to be perfectly air tight except one tube by which to put in water (to which a tight stopper may be adapted,) and another for the steam to pass out at, on which a pipe must be closely fitted, and from thence passed to the place where you desire to have it. The boiler may be filled with water, and placed on a stove or furnace. As soon as the water commences boiling, the steam will pass out of the tube and through the pipe to any place desired. The temperature of the steam will be regulated by that of the fire over which the boiler is placed, and must be adapted to the patient's strength and ability to bear it.

TREATMENT OF DISEASE.

In all cases where the patient has little or no appetite, and is declining in health and strength for the want of support, simple treatment, such as tonics, stomachics and soothing medicines, ought to be used; but if they fail to answer the purpose, it is evident that the system is laboring under serious difficulties, and that the patient will not find relief until the obstructions are removed, perspiration made free, and digestion regulated. In such cases the articles that afforded nourishment in health produce excitement and irritation in the stomach, distress in the head, and a general derangement throughout the internal viscera, the arterial and nervous system, and a feverish excitement on the surface. To remove this, we point out the following plain and simple mode by which all curable forms of disease may be treated successfully, and the patient restored to health. There is no danger attending the operation of the medicines, as in the regular practice; therefore if one course of medicine is given more than was actually necessary, no injury will result to the patient, and the time and medicine is all that is lost. How important, then, that thorough treatment should be observed, when so momentous an object as the life and health of the patient is concerned.

TO BE REMEMBERED.

In all cases where there is inflammation or a concentration of febrile excitement to any particular point, for instance a sprained joint, distress in the head,

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inflammation of the stomach and bowels, &c., the course of medicine will remove the obstruction by equalizing the fluids throughout the system, by which means the patient will find immediate relief, thus confirming the principle of the *UNITED OF DISEASE*. If such concentration of excitement be caused by morbid matter being received into the system by means of a fetid atmosphere, bad food or putrid water, one course may not be sufficient to exclude all the morbid poison from the secretory vessels, the evidence of which will be the want of an appetite, sickness at the stomach, weakness in the limbs, and a febrile excitement. If so, courses should be repeated at suitable intervals of time, until these symptoms pass away, and by the circulation through the body being equalized a healthy action is restored; the appetite becomes good, the digestive organs perform their natural functions, and the sleep is quiet. Courses of medicine may be successfully employed to remove distress and ease pain, and to make the patient comfortable in all cases of *whitlows*, *felons*, *biles*, *bruises*, or any other excessive inflammatory concentration of the fluids of the body where relief cannot be found from any other course of treatment.

First, soak the affected part in lye made of hard wood ashes, then apply a poultice made of flax seed, or yellow lily, or made of bread and milk, which should be kept moist while under the operation of the course. This will relieve the distress and bring the sore to a crisis, and is perhaps the surest way to relieve the patient. It is expected that all simple means will be tried before the course is resorted to. It should be remembered that all diseases are brought on by derangement of the fluids of the body, and that all diseases can be cured by restoring order and regularity to said fluids. Courses of medicine will effect this, if properly administered and attended to in season. Where there is distress there is disorder and a derangement of the fluids, and consequently a restoration of order and an equalization in the system, will afford relief.

In reading this work, do not forget this important principle; that all diseases herein mentioned are brought about by a decrease or derangement of the vital fluids by taking cold or the loss of animal warmth. And that the name of the complaint depends upon what part of the body has become so weak as to be affected. If the lungs, it is consumption, or the pleura, pleurisy; if the limbs, it is rheumatism, or the bowels, cholera, or cholera morbus.

But after all, these different diseases are caused by the partial loss of vitality or warmth, and all may be removed by a restoration of the vital energy, and removing the obstructions which the disease has generated.

It is thought by some that unless the physician know the name which has been given to the disease by others, he cannot treat it successfully. If he cannot readily call to mind the variety of names so profusely lavished by the regular physicians upon the different forms of disease it will not prevent his medicine from having a beneficial effect, nor prove that the physician has not *valuable practical knowledge*, which is after all the true philosopher's stone of which the patient is in pursuit.

Is it right to infer that because a man cannot command all the names that have been written by other people, as liable to err and as frail as himself, that he cannot by practice, know the use of medicine or the nature of disease: or because he cannot give the respective bones, muscles, ligaments and vessels of the body their appropriate names, he cannot cure the colic or dysentery?

When our pilgrim fathers landed at Plymouth the aborigines brought them long golden ears, of a vegetable substance, which they had never seen or heard of before, neither had the great or learned men of their father land, and we are told that they were kept from starvation, were nourished and rendered comfortable

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through a long dreary winter by the support this vegetable substance afforded, furnished by illiterate savages. Now shall we deny that these people were nourished and supported by this valuable plant, because they did not know that it was Indian corn, and because it was furnished by those illiterate savages, who knew not the meaning of a diploma and had no knowledge of the Greek or Latin languages? Impossible!! The virtues and nutriment were in the corn, and the true science in the matter was in having the knowledge of it. In this respect the savages were scientific and the pilgrims were the quacks, notwithstanding their boasted knowledge in other respects. Give us more practical knowledge and less theorizing; more of true science and less speculation. To remove the infirmities of our fellow men, give us more innocent vegetable substances and less poisons. Then shall we be led to rejoice over the bounties of Providence, in filling the soil with innocent remedies that the poor suffering sons of humanity may there find an antidote for every bodily ill.

COURSES OF MEDICINE. No. 1.

First—To prepare for the course, let the patient take a dose of composition, or No. 6, in herb tea, hot, then go into the bath and put his feet into hot water; raise the heat of the bath to about 100 or 120 deg. Fahrenheit. After a lively perspiration starts, and the veins have become full upon the feet, hands and temples, and the pulse much quickened, say to 95 or 100 per minute, take a quart cup of cold water and add hot water to it until its temperature is about that of the surrounding atmosphere; then open the door of the bath, and have the feet taken out of the pail, and pour your water over the head and shoulders, completely drenching the whole surface of the body and limbs. Then let the patient step out of the bath and be rubbed with a coarse napkin or towel. The indications of a healthy action now are, full veins on the extremities and a lively appearance in the flesh throughout the system. Now let the patient go into a warm bed, with a hot stone, brick or jug of hot water at his feet.

Secondly—Take two ounces of No. 3, or canker tea, and put it in a quart bowl, and pour upon it one pint of boiling water; let it steep about ten minutes, strain off three gills, and when hot add two teaspoonsful of brown emetic, one teaspoonful of cayenne, one teaspoonful of nerve powder, and if it is a putrid case, one tablespoonful of No. 6; sweeten it with molasses or sugar. Pour off a wineglass full of this compound, and give it to the patient as soon as he is in bed, and then let half a pint of the same compound be given as an injection. Let two or three wineglasses more be given with about half a teaspoonful of emetic in each, at intervals of fifteen minutes, if that given first does not operate sufficiently. While under the operation of the course, let the patient drink freely of a tea made of spearmint, peppermint, pennyroyal, or summersavory, and also of milk porridge or crust coffee, which will nourish and invigorate the body.

Thirdly—In from three to six hours the patient will generally be through with vomiting and the stomach settled: then let him take a second bathing precisely similar to the first; let him stay in ten or fifteen minutes, remembering to shower with the tempered water on coming out. Let the surface of the body be rubbed thoroughly and then apply to it some cold whiskey and water, to completely close the pores, and the patient may then dress and wash his hands and face in cold water, and if the stomach and bowels have been thoroughly cleansed, he will feel completely well.

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Fourthly—Let the patient take of the bitters No. 4, or syrup No. 5, to restore the digestive organs, and his health is soon restored.

This course may be repeated if thought advisable, but it is the most powerful one that is usually administered.

COURSE No. 2.

In case of inflammatory sore throat, quinsy, rattles or croup, take a dose of composition, cayenne, or No. 6, then take a bath as in course No. 1. Bathing the feet alone will answer, if the bath cannot be handily applied: then give one fourth of a glass of tincture of lobelia, after which give an injection as prepared in course No. 1, or the brown emetic may be put into a boiling hot tea of composition, witch hazle, or red raspberry leaves. This will change the field of excitement from the upper to the lower extremities, and will also turn the pressure of blood in like manner from the head, lungs and neck to the bowels and feet.

In all cases of difficulties or inflammation about the region of the lungs or head, the injection should be made sweet with molasses to loosen the bowels, and very stimulating with No. 2, and sufficiently powerful with brown emetic to cause the patient to vomit, and should contain also a teaspoonful of nerve powder, or instead of two teaspoonsful of the tincture of asafoetida, to quiet the nervous system while under the operation. Repeat the tincture by the stomach, if the injection does not cause sufficient vomiting, and immediate relief will be the result, unless the patient is very low, or beyond the reach of medicine.

After the medicine is done operating, the steam may be applied as in course No. 1; the body bathed with whiskey and water, and the feet and legs with stimulating liniment. Put a stimulating plaster about the neck, with the sides notched, so that it may extend to the edge of the chin, and over this put one or two thicknesses of flannel to keep the neck warm. The same plasters may also be applied to the feet to good advantage. This treatment turns the circulation so completely to the lower extremities that relief is almost instantaneous. In the recent state of the disease this treatment soon brings the difficulty to a crisis, and the patient recovers with very little trouble. In cases of croup or rattles, cloths wet with hot whiskey and water wrung out and applied to the bowels as hot as can be borne, and often changed, are a great assistant to the other treatment in restoring the lost heat or vitality by absorption.

With such practice we have relieved many cases of violent disease of the chest and head, and these directions should be remembered and followed by all in similar cases.

COURSE No. 3.

There are various forms in which the emetic may be given. A light course may be given a child; by first bathing the feet in hot water and giving freely of penny royal, spearmint, pepper mint, or summer savory tea, with the addition of a little cayenne and lobelia tincture. Then to a cup of the hot tea and half a tea-spoonful of cayenne, the same quantity of brown emetic, and a tea-spoonful of the tincture of asafoetida, and give it as an injection. It will produce copious vomiting, take the distress from the head, and produce immediate relief.

After the operation the body of the child may be bathed thoroughly with whiskey and water about blood warm. Put on clean, warm, dry clothes, and place the little patient in bed, and it will feel much relieved and refreshed.

If the stomach is so weak or irritable as to reject the cayenne or emetic, given

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as above directed, let the patient drink herb tea until the system becomes moist with perspiration, then give the emetic in form of pills, or in honey, any kind of sweet meats, preserves or syrup, or in weak pearlsh, or saleratus water; in any of the mint teas or simple drink; or it may be given in toddy, sling, beer or cider. It may also be taken in lemonade or orange juice and in a great variety of other ways.

If the patient is determined not to take the emetic, he may be deceived by preparing it in one of the above forms, and not know that he has taken it until it begins to operate.

Then by giving the herb teas or composition, a thorough course may be had without much trouble. But if the child detects the taste of the emetic when mixed with these articles, let him taste of some of the drinks made pleasant, just sufficient to produce a desire for more, then put in your emetic, unnoticed by the patient, and let them hurry to drink it before the taste is detected, or they have a chance to know what it is.

COURSE No. 4.

Let the patient take of composition or herb tea till an easy perspiration is started, then administer half a dozen emetic pills; they will gradually dissolve, and the secretions will take up their emetic properties and nausea will be continued for some time before vomiting takes place. If the operation is not sufficient, an injection as directed in Course No. 1, may be administered, or instead of brown emetic, the tincture may be substituted, and if thought advisable a half dozen more pills may be taken. This will generally answer the purpose. After the medicine has done operating, take a vapor bath as directed in Course No. 1, remembering if the circulation is not good in the extremities, to bathe the feet in hot water, and then apply to the feet and legs the stimulating liniment.

The proper application of these courses of medicine, in the various forms of disease to which man is subject, we consider the key-stone in the grand arch and superstructure of the Thomsonian system of practice; for without the lobelia, cayenne and the vapor bath, the grand bulwark of the system would be wanting. These valuable articles stand in the front and foremost rank to oppose all attacks, stages and forms of disease to which frail humanity is subject.

Having given the history of Samuel Thomson, close linked with the record of Lobelia, and his method of treating diseases, it remains to close the chapter with the ending of the life of the most picturesque of all men connected with the evolution of American medicine and the American *Materia Medica*. Comes now as the final word the death of Samuel Thomson.

DEATH OF SAMUEL THOMSON

"See, when the patient's taken sick,
Coldness has gained the day;
And fever comes as nature's friend,
To drive the cold away."

Some men advocate one thing and practice another. It is said of a renowned prohibition orator, who had been criticised for using alcoholic liquids: "Do as I say, not as I do." Such as this can not be charged against Samuel Thomson. Fanatically zealous in his cause, an advocate of the Thomsonian Course of Medication in all that the course implied, he passed from life heroically partaking of lobelia, enemas, and the recognized Thomsonian syrups, teas, etc. Indeed, September 22, 1843, he ordered a full "course of medicine," although he knew full well that his earthly end was near. Heroically he fought death until, at last, on the morning of October 4, 1843, came the ending of it all.

This Bulletin would be incomplete without a description of the last days of this interesting personage. We accordingly reproduce from the *Botanico-Medical Recorder*, November, 1843, the report of Mr. Nathaniel S. Magoon, of Boston, who cared for Thomson in his last illness.

[From the Thomsonian Manual.]

Mr. Editor: Having been requested by the friends and relatives of Dr. Samuel Thomson to give an account of his last sickness and the medical treatment he received during that sickness, and thinking the public who are favorable to his system, may also feel interested in the subject, I have written the following report which I sent you for publication in the Manual:

SICKNESS AND DEATH OF SAMUEL THOMSON.

For the last three or four years Doctor Thomson had been in the enjoyment of tolerable health for a man of his age; and although subject to attacks of diarrhoea, still, by a careful attention to himself, he soon checked its progress and restored his health; and by his own medicines, and always by his own directions. His health for the last year had not materially varied from what it had been for the period above stated, until the first of August last, when the relax set in and continued until the 26th of September; as he had been so accustomed to being up in the night, and of having his own way of treating himself when this complaint was on him, nothing serious was thought of it, until he expressed his fears that he could not hold out much longer, without a more thorough resort to medicine. Medicines of an astringent nature were then prepared by his directions, which relieved him in two

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days—during which time he had administered to him six enemas. On Friday, September 22, he observed that he must have a course of medicine.—My wife observed that it was near night, he had better take some canker tea, then, and take the emetic in the morning, to which he assented; the tea when taken vomited him.

Saturday morning, Sept. 23, he got up and dressed himself as usual, went into the yard; he was told that he ought not to go out; he replied that the air was clear and bracing, and would not hurt him. He soon returned to his room, and ordered an emetic of tincture of lobelia, in vegetable jelly; which was got, and in the absence of the nurse he took part of it, sitting by the fire, which made him sick—when the nurse returned she told him that he had done that which he had cautioned others against doing, by taking the emetic when exposed to the air, and advised him to go to bed; he replied he would if someone would help him undress—he was never known to ask to be helped in undressing before. He had a stimulating enema—and was assisted to bed, and had steaming stones put to his back and feet, and he then ordered more emetic mixed, but when offered him he delayed $\frac{3}{4}$ of an hour before taking it. His emetic was prepared of tincture of lobelia in vegetable jelly, and a tumbler of canker tea; he drank pretty freely of pennyroyal tea, porridge, &c., and threw up a larger quantity of cold phlegm, than was usual for him to when taking a course. His course operated well, and he was washed with spirit and rubbed with flannel, and put into a clean bed. He appeared cheerful and joked freely; through the night he drank often of composition tea and porridge.

Sunday morning, Sept. 24, he got up and eat a light breakfast, sat by the fire, and as he appeared dull, he was asked how he felt, after his course? He replied he felt as much refreshed as a boy who had been whipped; he then laid down, and on being asked if he thought the emetic did not operate well the day before; he said, no, the lobelia did not do justice, that it seemed to raise a load from the stomach part way, which fell back heavy like a lump of lead. He was asked if he would have another emetic on Monday. He said that he did not wish for anything stronger than the cough syrup, with a little lobelia to raise the phlegm gradually. He then ordered enemas of slippery elm, nerve powder, a small quantity of cayenne and milk, all scalded together. He was asked why he ordered them in that way, and replied that they were to strengthen him, for his throat was so sore that he could not swallow; this to be continued until he was restored; seeming to express some doubt that he should ever recover. Soon fell asleep, and then slept an hour, when he awoke, took some chicken broth and appeared more comfortable. He said that his bowels felt much relieved, and that his disease was principally in the gland of his throat. He then took a short ride, the weather being clear, and returned in good spirits and sat up until after tea; he was watched with, and during the night he drank freely of composition tea, and porridge, but rested quietly, and in the morning we thought him recovering. He got up and took some breakfast, and wished to go out, but on being advised not to, he concluded it was not best, and took an enema prepared as before, he soon went to bed, had steaming stones to his feet, and as he complained of severe pain at the stomach, No. 6, with hot water, and sweetened, were given, which soon relieved him. He was again urged to take an emetic, but refused, and when asked what would relieve him if he did not take an emetic, he replied, time and simple medicines, if anything. In the afternoon, he wished to get up and be shaved, which was done—and on attempting to go to bed again, he could not without help; he was asked why he could not walk better? and replied that his rupture—which he had been troubled

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with for a number of years, and considerably so for three years past—had fell again. The man who shaved him, said the doctor had considerable of a high fever, when the nurse repeated the following lines in his poems—

"See, when the patient's taken sick,
Coldness has gained the day;
And fever comes as nature's friend,
To drive the cold away."

When this verse was repeated, he smiled and said that is right.

He then asked for No. 5 syrup, which was given, and had flannel wet in brandy applied hot to his body—and his head, feet, legs and hands, were rubbed with essence of pennyroyal—the flannels would be quite dry in an hour, and required to be renewed often. At 6 o'clock, P. M., got him up, and administered an enema, soaked his feet in hot water, bathed him with spirit, and put in bed again, and through the night he rested comfortably.

Tuesday 26, he took porridge for breakfast, and followed a similar treatment as on Monday, sat up only to have his bed made; next day he took a spoonful of lobelia herb steeped and strained, which vomited him and raised a large quantity of phlegm, and he appeared relieved—he was rubbed again with warm spirit and rested well at night.

Thursday 28, treated him much the same as the two preceding days, until about twelve o'clock, when his right leg from the knee down to the foot became cold, and it was with great exertions by rubbing and applying steaming stones that the natural warmth was restored, the left leg grew cold in about an hour, and the same means restored it that had been applied to the other. He said but little during the day, being much inclined to sleep; occasionally wandering in mind on waking. Fears were expressed to him, that unless he took more hot medicines he would die, to which he replied that he did not wish to live; through the night, he occasionally revived and then failed again, and appeared gradually losing strength, and during the next day remained about the same.

During this time, all of the prescriptions were of his own ordering, and all made known to him; when he got up, put his feet into warm water and he had a steaming stone before him and a blanket thrown over his head, as he said it relieved the distress in his throat. His medicines were now simple and soothing preparations to ease his throat and help expectoration, and nourishing food and enemas to sustain nature; but age and infirmities were unable to bear up under such complicated and severe sickness, and he gradually failed until the morning of the 4th of October, when he dropped away like going to sleep. He died highly respected and deeply lamented.

N. B. Last year about Thanksgiving time, the Doctor expressed a belief that he should die before spring; stated that his father was found dead in his bed and that he thought that he should die very sudden, and was often unwilling to be left alone on that account. Several times during the summer, said that he should die in the fall, expressed his firm belief that he should not see seventy-five years, which would have been his age in February, 1844. In November and December last, he frequently mentioned that he believed that he should die before spring, and arranged some of his business with me, at his own suggestion. Last summer he had an appointment to visit Baltimore, or gave his friends encouragement that he should go in September or October, but a few weeks before his death.

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On being asked if he was going, he said, No; he had rather die at home. About three weeks before his death he had some disappointment in settling some business, he was apprehensive that he had lost a considerable sum of money, which was a source of great perplexity and worryment to him, and no doubt tended to fatigue and weaken him.

Respectfully yours,

Boston, October 26, 1843.

NATH'L S. MAGOON.

THE END.

Drugs and Medicines of North America

This publication was instituted as a Quarterly, in 1884, by J. U. and C. G. Lloyd. It considered the medicinal plants of North America, until June, 1887, when, for want of time, the editors were forced to discontinue it. Among the drugs presented therein, *Hydrastis Canadensis* (1884), was reproduced as the Bulletin of The Lloyd Library, No. 10, whilst *Lobelia* becomes a feature of the present Bulletin, (No. 11). This portion is paged (64 to 106), according to the folios of the original publication.



Samuel Thomson.

His System and practice Originating with Himself

Born Feb 9th 1714

[From "The New Guide to Health," 1835.]

This portrait was taken when Thomson was younger than that shown in our frontispiece. It is characteristic in the prominence given the wart on the side of the nose.

—J. U. L.



Facsimile of the celebrated "Thomson's Patent." The original is in The Lloyd Library, bound in the 1841 copy of "The Thomsonian Materia Medica,"—J. U. L. See page 64.

CONCERNING LOBELIA

Lobelia. Our work would be but partly accomplished did we not present something concerning the drug lobelia, with which the name of Thomson is so intimately connected. We therefore, from *Drugs and Medicines of North America*, by J. U. and C. G. Lloyd, September and December, 1886, present verbatim selections from the article on lobelia. This article carries, in foot notes, many references and much valuable information concerning Thomson, the Thomsonian remedies, and the history of lobelia outside of its use by Thomson and his disciples. Whilst no effort is made in any wise to revise the statements contained therein, or to review the subject from 1886 to the present time, the editor feels that he may, with propriety, make a few general remarks concerning the subject.

Lobelia, as shown by the article to follow, was employed in medicine before the date of Samuel Thomson, but not in amount sufficient to detract from the reputation of Thomson as the man who discovered and introduced the drug. (See page 88, *Drugs and Medicines of North America*, December, 1886, same page, this Bulletin.)

The alkaloid lobeline, described by us (pages 73-78) and physiologically investigated by Professor Roberts Bartholow, M. D. (pages 89-92), proved to us a subsequent disappointment in that the solution of whatsoever salt might be employed, or the alkaloid itself in substance, failed to give to physicians the value of representative galenical preparations of the whole drug. Consequently, within a moderate period from the time of its study and introduction in *Drugs and Medicines*, by reason of these facts, the use of either the alkaloid or of any of its salts was discontinued.

INFLATIN, pages 76-78, *Drugs and Medicines*, needs, in our opinion, to be further investigated. Its position has not, to our knowledge, been determined, and whether it be a fatty acid, a stearoptene, or a concrete wax, is yet problematical.

The medical history of lobelia has, in our opinion, been but superficially touched, even to the present day. The recent investigations of Dr. E. Jentzsch, of Chicago, and of others of the Eclectic school in medicine, in a hypodermic direction, leaves the subject of lobelia, in a therapeutic sense, no less graphically before the profession at this date than, nearly a century ago, it was in the days of Samuel Thomson. Lobelia is one of the most promising and most fruitful of the American drugs, and, in the hands of physicians who know how to use it in disease, it is one of the most useful.

JOHN URI LLOYD.

PLATE XXXIV.



LOBELIA INFLATA.
(NATURAL SIZE.)

LOBELIA.*

INDIAN TOBACCO.

PARTS USED.—The dried flowering plant and the seeds of *Lobelia inflata*, Linnaeus.

Natural Order Campanulaceæ, Tribe Lobeliææ.

BOTANICAL DESCRIPTION.—*Lobelia* is an annual herb growing in dry fields and pasture grounds and woodland pastures. In dry sunny places it attains a height of a few inches to a foot or two, the usual height in pasture lands being about a foot. In shady, rich soil, however, it is more luxuriant, growing two or three feet and becoming more slender and fewer branched. The plant flowers in August continuing until frost into September. When the time to flower arrives, each plant begins to bloom, no matter what its height or size. Often plants will be found in bloom only an inch or two high, and only bearing three or four small leaves and as many terminal flowers. Our figure 126 represents such a plant.

The roots of *Lobelia* are few and fibrous. The stem is erect, green, round, striate and covered with sparse white hairs, that are beautiful objects under a microscope. Each stem that attains the usual size is branched about the middle with several ascending branches, axillary from the leaves, and ending each in a spike of flowers. The branches are always much shorter than the main stem.

The leaves are alternate, mostly sessile, or the lower short stalked, and slightly decurrent down the stem; they are ovate or oblong, usually an inch to two long and half as wide, varying smaller till they merge on the upper part of the stem into flower bracts; they are of a



FIG. 126.

A small flowering plant of *Lobelia inflata*, (natural size.)

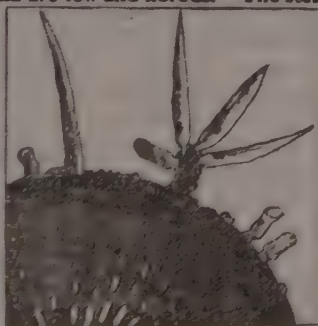


FIG. 127

Magnified portion of the stem showing branched hairs.

*The paging from this (63) conforms to that of the original article in "Drugs and Medicines of North America."
—J. U. L.

light green color, downy on both sides and soft to the touch. The veins are numerous, projecting below the leaf and impressed in the upper side of it. The margin is crosely blunt-toothed, the teeth tipped with small glandular white tips.

The flowers appear in August, the first to open axillary to the upper leaves which become successively smaller, passing into the bracts of a terminal raceme. The flowers themselves are rather inconspicuous being only about a quarter of an inch long. They are bourne on short, erect peduncles about the length of the calyx lobes.

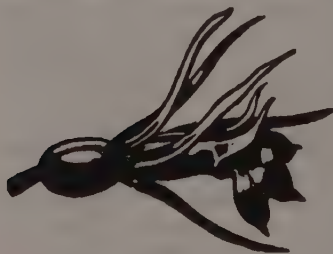


FIG. 128.

A flower of *Lobelia inflata*, (enlarged.)

of all the species of *Lobelia*; the upper lip consists of two erect, narrow lobes, the lower of three sub-equal, broad reflexed segments. The stamens are five and cohering together, both filament and anther, around the pistil, form a column the length of the corolla tube and slightly projecting from the split in this tube. The pistil consists of a two-celled, inferior ovary, containing numerous minute ovules attached to the large central spongy placentas, and completely filling the ovary when in flower. The style is enclosed in the tube formed by the stamens, and ends in a small two-lobed stigma.

The fruit-pod is a peculiar shape, as shown in our figure 129. It is about a quarter of an inch long, inflated, sub-globular, com-

pressed laterally, and unequal at the base, the cell opposite the stem being longer at the base than the inside cell. This is characteristic of the fruit.* The pod is prominently ten veined lengthwise with numerous, intermediate, net veins. It is crowned with the five persistent linear calyx segments, which on the unripe pods are nearly erect and slightly more than half the length of the pod; the sides are very thin and easily compressed. The pod is very much inflated, (whence the name of the plant,) and is divided lengthwise into two cells by a thin partition; it contains an axial two-lobed,

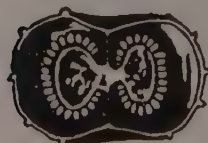


FIG. 130.

Transverse section of a pod of *Lobelia inflata*.

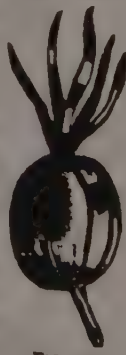


FIG. 129.

A fruit-pod of *Lobelia inflata*, (slightly enlarged.)

*Bentley & Trimen's illustration of the pod (fig. 6, plate 16s, also of the pods on the stem) is inaccurate, as it represents the pod equal at the base, and large at the apex tapering to the base, (club shape,) which is not the case.

comparatively large, spongy placenta, which is densely covered with the numerous minute seeds. The description and illustration of the seeds are given in our description of the drug.

COMMON NAMES.—The drug is now known to the drug trade as Lobelia or Indian Tobacco.

A number of names have been applied to the plant, mostly in old works. The earliest botanists did not use a common name for it. Aiton, (1810,) calls it Bladder Pod, and this name with Inflated Lobelia and Bladder Pod Lobelia, are the natural translations of the specific name, hence, the ones used at first by botanists.

From its taste which resembles tobacco the plant began to be known as Wild Tobacco to the people, and this name was used in Eaton's first Manual of Botany, and carried through all the successive editions. From Wild Tobacco it is quite natural that it should acquire the name Indian Tobacco, as it would be presumed a tobacco that was wild would be used by the Indians. As a matter of fact, however, we have no record that the Indians ever made use of the plant in the manner of a tobacco. Dr. Carver, who spent a greater part of his life among Indian tribes, and, who wrote a list of the various economic plants used by them, does not mention the plant. Indian tobacco began to be applied about 1814, (Biglow,) but did not come into general use, outside of medicine, until adopted in the botanical class books; first, by Beck, 1833; then Wood, 1845, and Gray, 1848. At the present time it is the only common name applied to the plant, either in medicine or botany.

On the introduction of the plant to medicine a new series of common names, denoting its properties were originated.

Thomson and Cutler, who first brought the plant to general attention, called it Emetic weed, and from this name Puke weed, Vomit weed, and Gag root, have been suggested and used.

We find the name Asthma weed applied by a few writers, and in very old works, Eye-bright. In our article on the medical history will be found further remarks in connection with this subject.

BOTANICAL HISTORY.—GENERIC.—The genus *Lobelia* is a very large family of plants, distributed mostly in tropical and sub-tropical countries, and a few found in temperate and even frigid zones.

They are characterized by a uniformity in the structure of the flowers and fruit, but differ widely in general habits, which has given rise to a number of sections, considered distinct genera by various authors.

Plants of this genus have all milky juice, a five-lobed calyx, an irregular two-lipped corolla with the tube slit along the upper side, and five anthers united around the style. To a mere novice in botany, plants of this family can be recognized by the very peculiar split corolla and the united

STAMENS.
The position of the genus in the natural system is obviously near the great family Composite, and has so been placed in all systems of classification. The genus agrees with the family in the trifid style, the anthers united around the stigma and the adherent ovary; with the tribe Cichoraceæ in having milky juice and the corolla split, the segments cohering together in one piece; with the

tribe Mutisiaceæ in having labiate flowers:* it differs in having the flowers not collected in an involucre head, which at first makes them appear very different, and in the character of the ovary.

The genus *Lobelia* has always been considered a type of a natural order, *Lobeliaceæ*, established by Jussieu, 1811,† and maintained by Endlicher, De Candolle, and most systematists, including all writers on American botany, even Dr. Gray in his very recent work, 1878.‡ By Bentham and Hooker, however, 1876,§ these plants are included as a tribe *Lobelieæ*, of the natural order *Campanulaceæ* and we have followed these authors to give uniformity to our work, theirs being the last general work on plant classification that has been published.¶

In old times plants of this genus were described in common with widely different ones under the family name of *Rapunculus*. It was Tournefort, who first clearly defined the genus in 1719,¶ giving it the name *Rapuntium* and as his genus is very natural and most of the species are still retained, it is unfortunate that the name has been replaced. The history of the present name of *Lobelia* is as follows: In 1703 Charles Plumier** in his work on plants of the West Indies,†† dedicated to his friend Matthias de Lobel,‡‡ a genus founded on a plant collected in the West Indies. Linnæus referred this plant to Tournefort's genus, *Rapuntium*, and adopted the name *Lobelia* for the genus, probably because it was the prior name. Afterwards, when his attention was directed to the fact, that under the name *Lobelia*, a large number of plants were included entirely distinct from the original plant described by Plumier, Linnæus deemed it best to retain the name for the plants to which it had become most generally known and to originate a new name for the genus of Plumier.‡‡

*It is a fact, not generally known to our botanists, because their attention is not directed to it by any common native plants, that a large section of the *Compositæ*, consisting of over fifty genera of South American and African plants, are chiefly characterised by having bilabiate corollas. We have in our Southern States a single species (*Chaptalia tomentosa*, Vent.) that belongs to this section.

†Mémoire sur les Lobeliacées et les Stylidiées, nouvelles familles des plantes, A. L. de Jussieu, *Annales des Sciences Naturelles*, Paris, vol. xviii, 1811.

‡Synoptical Flora of North America, Asa Gray, New York, 1876, vol. ii., part 1, page 2.

Dr. Gray says on this subject: "Too near the *Campanulaceæ* and nearly passing into them, therefore united by recent authors; but as there are two dozen genera, agreeing in the indefinite inflorescence, irregular corolla and mostly in the syngenesious anthers, it seems best to retain the order."

§Genera Plantarum, Bentham and Hooker, vol. ii., (part 2, 1876,) p. 552.

¶We will state in this connection that we think the family a perfectly natural one, and distinct from the *Campanulaceæ*. Indeed, any one will have more trouble in finding points of resemblance than points of difference between the two sections.

While we would like to follow all American authority, the *Pharmacopœia*, all our medical works and our own views in considering the family distinct still, we think it better to adopt the classification of Bentham and Hooker, acknowledging them as the present botanical authority on the classification of the plants of the world.

¶Institutiones Rei Herbariæ, J. P. Tournefort, Paris, 1719, p. 163, plate 51.

**See note *, p. 21. Plumier was the first to honor living persons by introducing their name into scientific nomenclature. The plan met with much opposition at first because it was liable to be abused, and names of persons selected, who's scientific labors do not entitle them to this distinction. It has been adopted by many of the most eminent botanists.

††Nova Plantarum Americanarum Genera, P. Carolus Plumier, Paris, 1703, p. 21 and plate 31.

‡‡Matthias de Lobel (Matthias de l'Obel as the name is originally spelled) should be classed among the early English botanists. He was born in 1538 at Lisle in the north of France and was educated at Montpellier in the south of France, and traveled over Italy, France, Germany, finally settling near London. By profession he was a physician, and at one time he was physician to William, Prince of Orange. His chief reputation, however, is as a botanist, this study seeming to occupy most of his time. In 1570 he published at London a small work entitled "*Stirpium Adversaria*" which professed to investigate the botany and materia medica of the ancients, especially of Dioscorides.

A second edition of this work in 1605 contained an addition on new remedies, rare plants, etc., and in this work the first glimpse of a natural system of classification can be seen. It was necessarily very crude and imperfect, and consisted merely in grouping together such plants as seemed to accord in appearances or habits, without however defining the groups, or making any allusion whatever to the system. Some of the groups such as leguminous, grasses, etc., are quite natural and have continued to the present day, others, as could be expected, are very incongruous.

The work was printed in Latin and on this account was little known to the common people.

For the times in which he lived, Lobel was a most learned man in botany and the leader in this science. He styled himself (on one of his title pages) "botanist to king James I.," which has no doubt been the source of the erroneous statement published in several encyclopædias that he was "physician to king James I."

Lobel died in 1616, aged 78 years.

‡‡This genus is *Scævola*, established by Linnæus, and referred to the natural order *Goodenovicæ*. The genus has a cleft corolla tube, similar to *Lobelia*, which no doubt led Linnæus to originally place them together, but the

BOTANICAL HISTORY.—SPECIFIC.—The original collector of *Lobelia inflata* is not known, but it was evidently sent to Europe early in the last century. The first authentic mention we can find of it is by Linnæus (1737)* in his catalogue of the plants in the garden of George Clifford,† hence, it was evidently in cultivation at that time. It is probable that Tournefort also refers to this plant, (1719),‡ but we can not say with certainty.

Previous to the appearance of Linnæus's‡ "Species Plantarum" (1753,) the plant was specified by a number of descriptive adjectives.‡ Linnæus named it *Lobelia inflata* from the inflated seed-pods which name it has retained to the present day with the single synonym of *Rapuntium inflatum* given to it by Miller, but used by no one else.

DESCRIPTION OF THE DRUG.—In commerce two products of the plant are found, the entire dried herb and the dried seed. The former only is officinal, but the seed is a distinct article of trade, and very largely used.¶

Lobelia Herb.—As found in commerce this drug consists of the stems, leaves, and inflated capsules of *Lobelia inflata*. Usually the plant is gathered after the lower leaves have changed to brown and often the seeds have fallen from the lower capsules, which are then also brown. The plant is cut off just above the ground and the lower portion of the stem is generally devoid of leaves even in the carefully selected recent drug. Sometimes the plant has been known to appear so abundantly over an old field as to permit of its being mown with a scythe,** then the drug consists of straight, few branched stalks, from six to twenty-four inches long. If culled from moist situations along the banks of streams, the plants are more robust, branched and bushy.

Farmers often gather little lots of lobelia and then the entire plant is sold. Root and herb collectors on the contrary understand that the seed commands a

fruit is very different, being in Scævola a fleshy drupe containing a single large seed. Plumier's plate shows quite plainly the nature of the fruit which would exclude his plant from the present genus *Lobelia*.

In thus transferring a generic name from the original species to which it was given, to a family to which it had become attached we find an analogous case in the name *Magnolia*. (See note,† page 51.)

**Lobelia caule erecto brachiato, foliis ovato-lanceolatis obsolete incis, capsulis inflatis.*—Linnæus, Hortus Cliffortianus, 1737, page 300.

It is not stated whether the plant was growing in Clifford's garden at that time, or whether it was merely preserved in his herbarium, as the Hortus Cliffortianus describes both plants of his garden and dried collection.

†George Clifford was a wealthy banker, who resided in Amsterdam in Holland at the time of Linnæus. He was not a close student of natural science, but having a liking in this direction and abundance of means he established an extensive private garden, obtaining the most rare and expensive exotics.

Becoming acquainted with Linnæus, who was at that time in straitened circumstances, and recognising his talents, Clifford employed him to study and superintend his garden, giving him a liberal salary.

For the first time in his life, Linnæus had now leisure and means to pursue his studies, unembarrassed with the necessity of struggling for a living and the result was the great systematic works that have made his name famous.

For three years Linnæus remained at Amsterdam and published the Hortus Cliffortianus, a magnificent work, enumerating all the plants that were in the garden or collection of his patron. Some idea of the wealth and liberality of George Clifford may be obtained from the fact that this expensive work, of over 500 folio pages and numerous plates, was only distributed gratuitously to his friends and correspondents.

A genus of shrubs, *Cliffortia*, of the Cape of Good Hope, commemorates his name.

‡"*Rapuntium Americanum, Virgæ aureæ foliis, parvo flore subsceruleo.*"—Tournefort, Institutiones Rei Herbariæ, Paris, 1719, p. 163.

§*Species Plantarum*, 1st edition, 1753, page 931.

¶*Lobelia caule erecto, foliis ovatis subserratis, pedunculo longioribus, capsulis inflatis.*—Linnæus, Hortus Upsaliensis, 1748, p. 276.

See also note * above.

¶The powdered herb was known to Thomsonians as *græva lobelia*. The powdered seed as *bræva lobelia*.

**Prof. A. J. Howe relates to us an instance in which several tons were cut at one time from an old wheat field about a mile from Worcester, Mass., on the road to New Worcester.

better price than the herb, and they thresh out the seed, break or chop up the stalk, and sell the seed separately. Thus it happens that the larger part of the lobelia herb of commerce is devoid of seeds, and is in a broken condition. As a rule, the leaves and capsules are of a green color, the upper capsules being especially verdant.

No substitution for *Lobelia inflata* herb or adulterant is gathered, of which we are aware, nor is any probable. *Lobelia cardinalis* and *Lobelia syphilitica* are such different appearing plants they would be easily detected, and the other native and more closely allied species are so small and mostly rare that it would not be profitable to collect them.

According to the *Pharmacographia* the drug used in England is mostly imported packed in ounces.*

Some writers assert that the root of *Lobelia inflata* is employed. This is a mistake, and first made by confusing *Lobelia syphilitica* with this plant. The root of *Lobelia syphilitica* was employed before *Lobelia inflata* was known to medicine, but the root of *Lobelia inflata* has never been used.

All parts of *Lobelia inflata* contain an acrid alkaloid (see Constituents, page 73,) which produces a painful irritation upon inhaling the dust of any portion of the plant. All parts of the herb, and the seed, produce an acrid biting sensation on the tongue, and a sharp tobacco-like impression in the throat and fauces. The milky juice of the green plant is intensely acrid, owing perhaps to the more soluble condition of the alkaloid. This juice is so violent that an amount so small as to refuse to affect a balance sensible to the one-thousandth part of a grain, produces a sharp tingling sensation upon the tip of the tongue. Upon drying, this juice becomes very much modified, but not by the escape of a volatile alkaloid.

The first published description of *Lobelia inflata*† states that the leaves if chewed "produce giddiness and pain of the head, with a trembling agitation of the whole body," and this sentence with little variation has passed through a multitude of works on materia medica.‡ It has not been our experience to note a giddiness of the head, the sensation with us is simply a tobacco-like irritation until nausea, headache and vomiting occur, and this is the report of others, who we know to be familiar with the drug.

Lobelia Seed.—This drug presents a deep brown color in mass. It consists of minute, almost microscopic seed. Their actual size is about 1-60 of an inch in length by 1-240 of an inch in diameter. The typical seed is oblong, rounding at the ends, and cylindrical. Sometimes they are nearly round, however.

*"The herb found in commerce is in the form of rectangular cakes, 1 to 1½ inches thick, consisting of the yellowish green chopped herb, compressed as it would seem while still moist, and afterwards neatly trimmed. The cakes arrive wrapped in paper, sealed up and bearing the label of some American druggist or herb-grower."—*Pharmacographia*, 1879, p. 399.

†Account of Indigenous Vegetables.—Cutler, 1785.

‡The original description of a drug seems to be authority with many writers who neglect to give proper credit to the real author, and, who seem not to display much personal knowledge of the subject.

The average number of seeds in a capsule is between 450 and 500. It requires 2500 seed to make one grain in weight.* Upon microscopic examination, each seed is shown to be a beautiful object, bright and glistening, the surface being a corrugated ridge-like network, of which figure 131 is a representation.

Lobelia seeds are odorless, but upon handling them a fine dust rises that is very irritating when inhaled. They possess the acidity of the plant in an intensified degree, and were considered by the Thomsonians to possess one-half more strength (emetic) than the powdered leaves.

Lobelia seed have never been official, but are in good demand in the American drug market, and, extensively employed by Eclectic physicians who consider that the preparations of the seed are more uniform and reliable than those of the herb. Our experience is to the same effect.

No adulterations or sophistications are known to us, although often fragments of the leaves and capsules are present, not being separated by sifting through fine enough sieves. The commercial term for the drug free from this chaff is "clean lobelia seed."

The corrugated surface of the seed is a characteristic of the species of Lobelia, and would serve to individualize them. It would be possible to substitute the seed of other species, *Lobelia syphilitica*, and perhaps *Lobelia cardinalis*. We made a careful comparison under a microscope of the seed of *Lobelia syphilitica* and *Lobelia inflata* and were unable to note any difference either of size or marking.

We are not aware that the substitution is ever made by collectors, but it could be done with profit to them as the *Lobelia syphilitica* produces seed in abundance and is a common plant and easily collected.

Fortunately, however, the plants are so different in all appearances that ignorant collectors have no idea that they are at all similar and the substitution is not suggested to them.

MICROSCOPIC STRUCTURE OF LOBELIA INFLATA.—(Written for this publication by Robt. C. Heflebower, M. D.)—Transverse and longitudinal sections of the stem of the plant show first the epidermis. (See fig. 132, plate xxxv. and fig. 136 following page.) This consists of a single layer of cells, and supports the hairs found upon the surface of the stem. Beneath this layer are several other layers of cells, (a. figures 132 and 136,) mostly oval upon transverse, and elongated upon longitudinal section. The cells of this layer are not all closely approximated, but there is a small space existing between some of them, whilst others are intimately joined. The latter is usually the case.

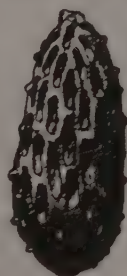


FIG. 131.
Seed of *Lobelia inflata*.
(Magnified.)

*Thus, a pound will contain 17,500,000 seed. The business firm with which the writers are connected, purchased recently in one lot 2000 pounds of lobelia seed. By our calculation this amount contains the enormous number of 35,000,000,000 individual seed.

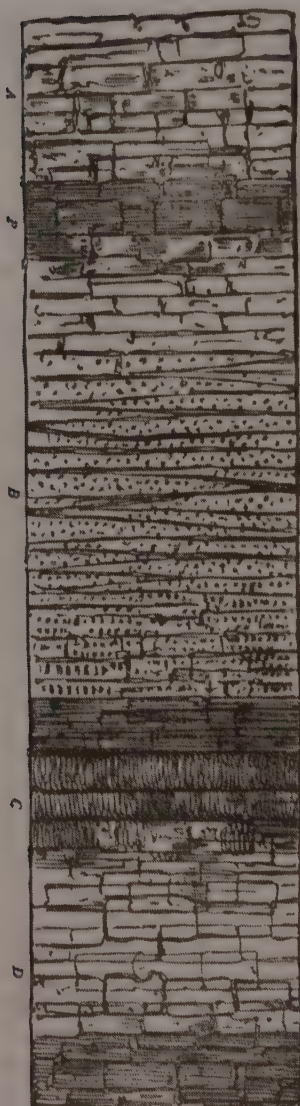


FIG. 136.
Longitudinal section—parallel with diameter
of one side of a stem of *Lonicera inflata*. *a*,
epidermis; *b*, parenchyma; *c*, medullary rays
of wood; *d*, tracheæ; *e*, pith; (magnified
300 diameters.)

Lying to the inner side of these outermost strata is the parenchyma of this portion, (*b*, figures 132 and 136.) It consists of numerous cells, elliptical in outline, arranged in from five to seven layers around the entire stem. In many places these cells appear irregular in form, this irregularity being caused by pressure from adjoining cells.

The woody structure of the plant (*b*, figures 132 and 136) is comparatively thick, and forms distinct medullary rays and interspaces.

Towards the pith, at the center of the stem, are the different vessels of the plant, the lactiferous tubes (*c*, figures 132 and 136) and the tracheæ. The structure at this portion is complicated, but the tracheæ are easily seen. They consist chiefly of spiral and annular vessels, the markings of which are very beautiful. Some pitting of the cell walls is also present. The lactiferous tubes are of the articulated variety, and by means of branches extending from one longitudinal tube to another, form a reticulated anastomosis.

The pith, (*d*, figures 132 and 136,) situated at the center of the stem, consists of a mass of loosely arranged cellular tissue, formed of numerous elongated cells, which, by transverse section, give an oval, a polygonal or a round outline.

There are also other epidermal structures besides those already mentioned. These are the hairs found upon both the stem and the leaf, the stomata of the leaf and the arrangement of the epidermal cells around such hairs and stomata.

The hairs upon the stem are simple and compound. The simple hairs project directly from the epidermis of the stem, and are unicellular of an elongated conical shape, having a base or attached portion, and an apex or free portion. The compound hairs (see fig. 127, page 63) arise by a single trunk, from which project several branches. These branches resemble the simple hairs.

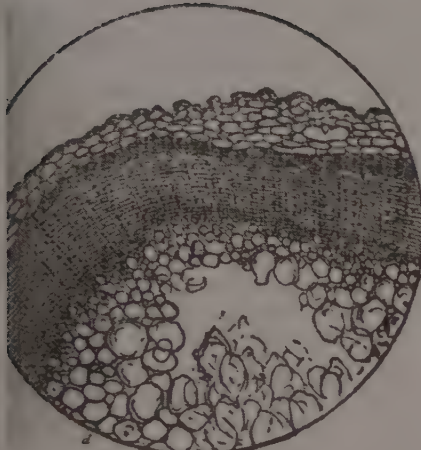


FIG. 132.

verse section of the stem of *Lobelia inflata*.—*a*, epidermis; *b*, pith; *c*, medullary rays; *d*, woody portion, containing medullary rays; *e*, lac and lactiferous tubes; *f*, pith. (Magnified 100 diameters.)

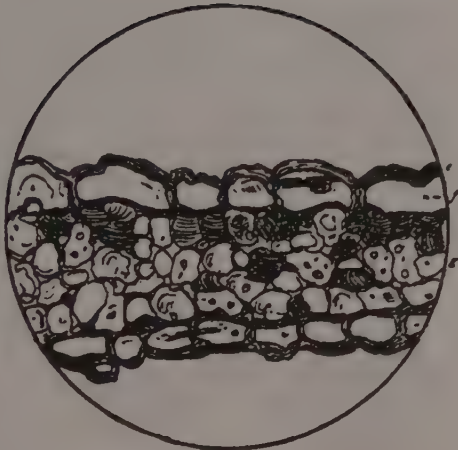


FIG. 135.

Transverse section of a leaf of *Lobelia inflata*.—*a*, cuticle; *b*, epidermal cells; *c*, parenchyma. (Magnified 300 diameters.)

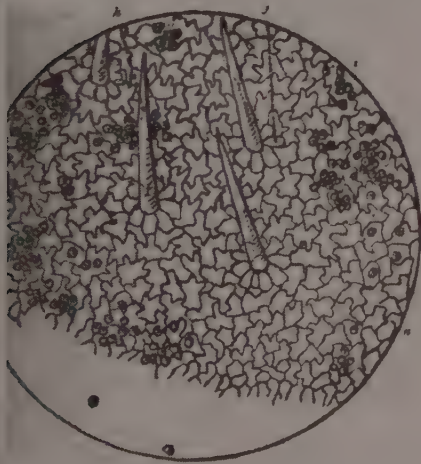


FIG. 133.

surface of a leaf of *Lobelia inflata*.—*a*, unicellular hair; *b*, subsidiary cells at base of hair; *c*, chlorophyll granules; *d*, epidermal cells. (Magnified 100 diameters.)

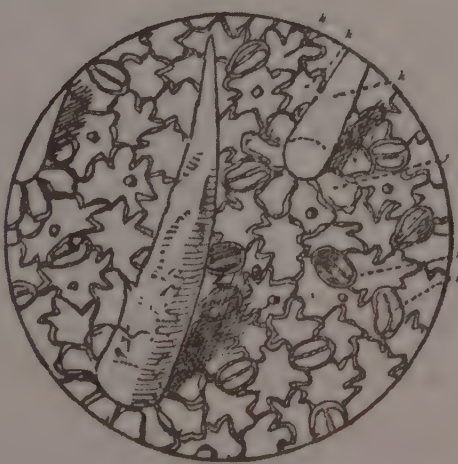
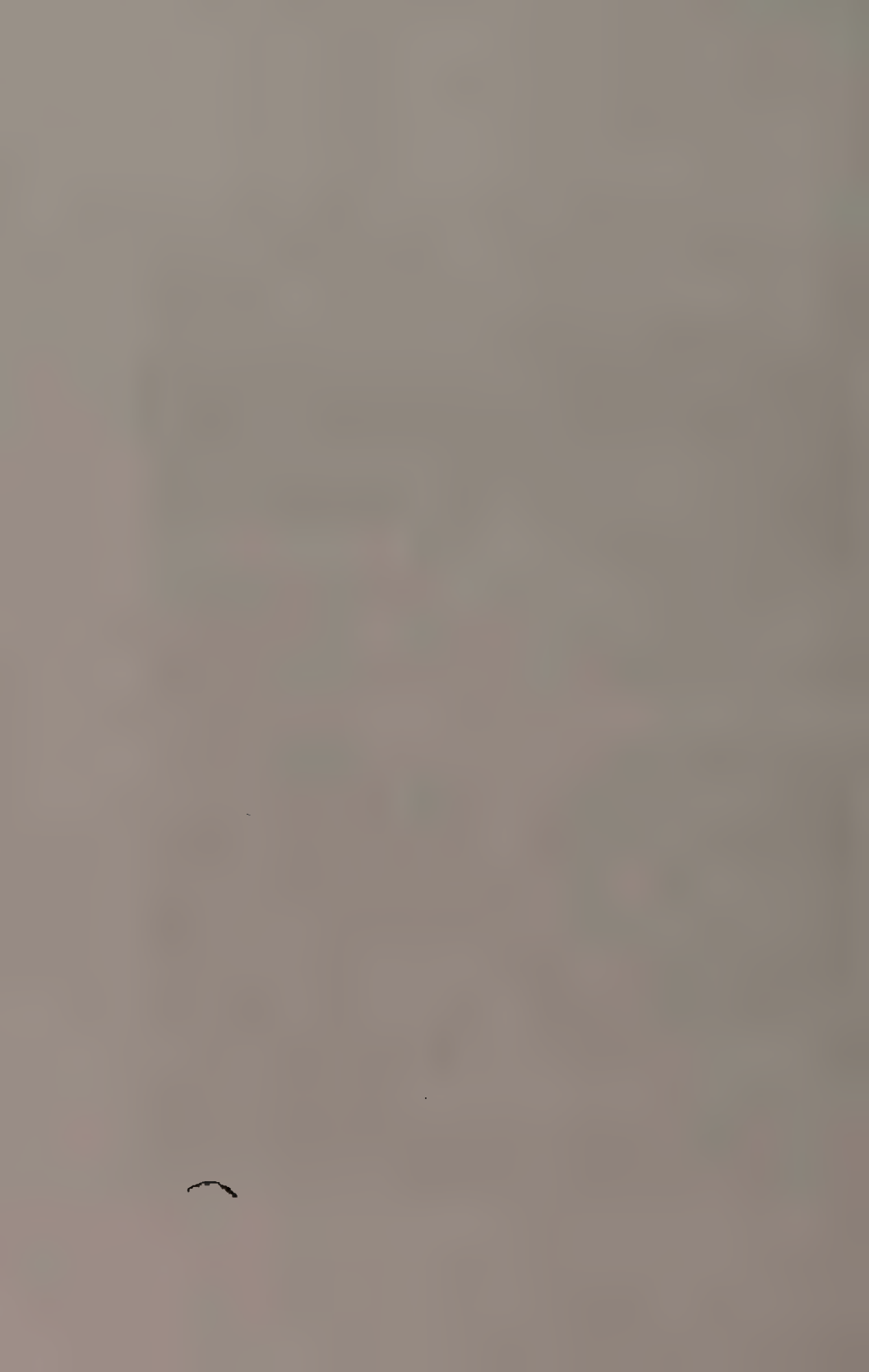


FIG. 134.

Lower surface of a leaf of *Lobelia inflata*.—*a*, epidermal cells; *b*, stomata; *c*, hair; *d*, subsidiary cells at base of hair. (Magnified 300 diameters.)



The epidermes of both surfaces of the leaf present cells bounded by irregular outlines and hair structures. The cells of the upper surface (see figure 133) are larger, and their walls thicker, than those of the under surface. The same is also true of the hairs of this surface.* The under surface (see fig. 134) presents in connection with the simple epidermal hairs and cells, numerous stomata, (see s. fig. 134.) Each stoma is widely elliptical in shape, and consists of a pore or longitudinal slit, and the guard or stomatal cells which bound the pore. Outside of the guard cells are several epidermal cells surrounding the stoma, the subsidiary cells of the stoma. The base of the hair is likewise surrounded by a similar cluster of cells, the subsidiary cells of the hair.

A transverse section of a leaf of *Lobelia inflata* (see fig. 135) presents the epidermis of each surface beneath the cuticle, and the parenchymatous structure between the two epidermal layers. The cells of the parenchyma are filled to a greater or less extent by chlorophyll granules.

The pollen grains are ovoidal in form and resemble a wheat grain, having a longitudinal slit on one side dividing the grain into lateral halves.

CONSTITUENTS.—*Lobeline.*—The characteristic principle of *Lobelia inflata* is an acrid, irritating alkaloid, that pervades all parts of the plant; most easily obtained from the seed. It is known as lobeline.

It exists in combination with an unimportant vegetable acid. If freed while in contact with other constituents of the plant the alkaloid decomposes in a short time. If heat is applied to an aqueous solution of the natural constituents, this decomposition occurs rapidly and the alkaloid soon disappears.† Heat applied even to an alcoholic tincture accomplishes the rapid destruction of the alkaloid.

In a recent experiment whereby we evaporated in a close still the alcoholic tincture of fifty pounds of *Lobelia* seed, and extracted the residue with acid-

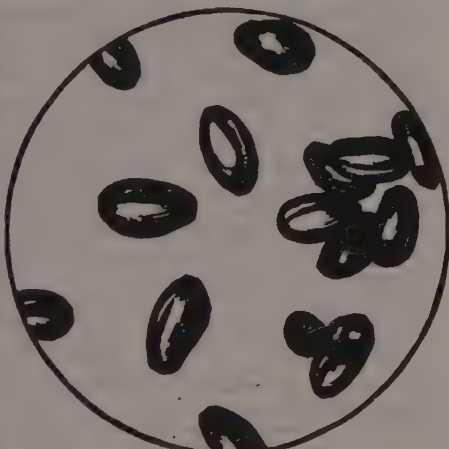


FIG. 137.

Pollen of *Lobelia inflata*, (magnified 690 diameters.)

*The apparent contradiction to this statement of our figures, number 133 and 134, is from the latter being more highly magnified.

†This fact was well known to the Thomsonians. They used but little heat, and throughout their literature we find constant reference to the loss of strength by boiling. Indeed, they wisely preferred to give both the herb and seed in substance. Empiricism demonstrated what chemistry supports.

ulated water, having neglected to add the acid to the alcohol, most of the lobeline perished. In another experiment, by an oversight, heat was applied to an aqueous solution of the alkaloid, while it was associated with other constituents of the plant and the alkaloid entirely disappeared.*

History of Lobeline.—Prof. S. Cohoun, 1834,† made the first examination of *Lobelia inflata*. He obtained by means of acidulated alcohol, a colored liquid that he took to be the characteristic principle, which however was simply a crude extract containing a salt of the alkaloid. He described it as follows: "The active principle of this plant is a brown, molasses-like fluid."

Prof. Wm. Procter, jr., 1838,‡ made *Lobelia inflata* the subject of his thesis. This was the first creditable chemical investigation of the plant. By a number of experiments he fairly demonstrated the presence of a volatile oil destitute of acrimony (exp. 4,) an alkaline body, soluble in ether, (exp. 10 and 11,)§ which is capable of forming salts with acids, (exp. 12.)||

Again, 1841,¶ Prof. Procter reconsidered the subject and obtained the alkaloid lobeline as a yellow, oily liquid, but he states, "if the process of purification were repeated, there is little doubt but that the lobeline would be obtained perfectly colorless."

Reinsch, 1843,** obtained a substance that he called *lobelinin*, but which was not a definite body.

W. Bastick, 1851,†† attempted to clear up the *lobeline* record, but was far from being successful, and added little if anything thereto. He obtained Mr. Procter's impure alkaloid by employing Liebig's process for making hyoscyamine.

Mayer, 1865,‡‡ in considering the "Principal Reactions of the Medicinal Volatile Bases" records the action of lobeline, classing it with the volatile alkaloids known at that day. In our opinion lobeline is not a member of the class (volatile) he investigated.

In 1871,§§ Enders extracted lobelia with alcohol and distilled the liquid in presence of charcoal, washed the charcoal with water and extracted it with alcohol which yielded warty tufts, slightly soluble in water, brown, acrid, and uncrystallized. Soluble in chloroform and ether. He gave it the name *Lobelacrin*, but we find it to contain the substance we designate as *inflatin* and a little of the alkaloid lobeline.

W. D. Richardson, 1872,||| found that upon exposure, lobeline underwent a change whereby it became insoluble in water and refused to form salts, but the nature of the alteration was undecided.

Mr. W. H. D. Lewis, 1878,¶¶ reviewed the literature on the lobeline subject, and suggested a modification of preceding processes, whereby he obtained lobeline of a honey-like consistence and light yellow color, but evidently impure, as it had "a somewhat aromatic odor." He decided that lobeline exists in the plant in combination with lobelic acid, and affixed to this salt the name *lobeliate of lobeline*, but, this substance, (whatever it may be,) had previously been obtained by Procter.

Dr. H. Rosen, 1886,*** obtained lobeline by making a benzin solution from the acrid infusion, and another alkaloid as he thought by after treatment of this liquid with chloroform. He decided

*Here again the Thomasonians learned from experience. They used *acetic acid* to make their most stable preparations.

†Prof. S. Calhoun, M.D., was Professor of Materia Medica in Jefferson Medical College, Philadelphia, at the time he wrote this paper.

‡Am. Journ. Pharm., 1838, p. 98, illustrated.

§He erroneously gives to this a strong odor. The odor was due to impurities.

||In 1840, (Am. Journ. Pharm., p. 280,) Prof. Procter examined *Lobelia cardinalis*, obtaining an impure alkaloid, of a bitter taste. It formed salts with acids.

¶Am. Journ. Pharm., 1841, p. 1.

**Pharmacographia, p. 400.

††Pharmaceutical Journ. and Trans., 1851, p. 570.

‡‡Proceedings of the American Pharmaceutical Association, 1865, p. 222.

§§Pharmaceutical Central-Blatt, No. 35, July 5, 1863.

||Inaugural Address, Am. Journ. Pharm., 1872, p. 598.

¶¶Pharm. Journ. and Trans., London, 1878, p. 561. Mr. Lewis was a member of the Pharmacy class of the University of Michigan at the time he wrote the paper.

***An Inaugural Dissertation, University of Dorpat, 1886, communicated to the Am. Journ. Pharm., 1886, p. 392. His paper was on *Lobelia nicotianafolia*, but he states, "the same two alkaloids were also obtained from *Lobelia inflata*."

that the latter alkaloid presented striated prisms. His investigations were evidently performed with small quantities from which possibly he failed to separate impurities.

Résumé.—Thus it is that, although much time and attention have been given to the lobelia constituents, the result is far from satisfactory. In our opinion, the chemistry of the subject is yet obscure. We have followed the various processes and obtained the acrid alkaloid, amorphous, colorless, intensely active, one drop of its solution immediately vomiting a strong man, but we have not crystallized either the pure alkaloid or a salt of it. We obtained crystals from the impure alkaloid *lobeline*, as others had and for some time accepted that they were the corresponding salts, but further (recent) examinations enabled us to eliminate the crystalline material entirely, leaving the alkaloid as an amorphous product.* That we were for a while deceived is evident, that others may also have been misled is possible. For the present we shall simply call this crystalline substance *inflatin*,† and are led to make this introduction before referring to the preparation of lobeline.

Preparation of Lobeline.—Extract the oil from powdered lobelia seed, by means of benzine, and dry the residue. Then acidulate the dry powder with a mixture of acetic acid one part, alcohol nine parts, and pack firmly in a glass percolator. Exhaust with a menstruum made of acetic acid one part, alcohol twenty parts. Evaporate the liquid, and when cold, add water enough to make a thin syrup, and extract the alkaloid from it by means of ether, adding cautiously ammonia‡ to slight alkaline reaction. The ethereal liquid is then to be decanted, evaporated in presence of water that has been previously acidulated with acetic acid to excess. The watery layer is cooled, separated from overlying oil, filtered, and again extracted with ether to which ammonia is again cautiously added to slight excess. This ethereal liquid will be colorless (if not so repeat the operation) and it contains the alkaloid *lobeline*. It has been supposed to contain *only* the alkaloid, but, in addition there is a volatile oil and *inflatin*.

If this ethereal solution is evaporated, a colorless glassy layer remains, of a strong odor, and which turns yellow and even brown upon exposure. It is partly soluble in acidulated water,§ yielding the alkaloid, mixed with various amounts of the associated impurities. It dissolves in alcohol, ether and chloroform, but only incompletely in benzol and carbon disulphide.

If the ethereal solution is evaporated in contact with acids (excepting acetic acid) an amorphous layer usually interspersed with crystalline formations remains. These crystals we formerly took to be *salts of lobeline*, even drawing fig. 138 under the impression that it was a sulphate. If this crystalline layer be extracted with carbon disulphide,|| the crystals disappear¶ and the acrid material remains. If now, the residue (a salt of lobeline) be exposed to the dry atmosphere for a few days, it becomes odorless from escape of the volatile oil. Then, it will dissolve in water, especially if slightly acid, and after filtration can be extracted colorless and as we now believe pure, by sulphuric ether in connection with a slight excess of ammonia.**

Properties of Lobeline.—Lobeline is alkaline in reaction, colorless, odorless, soluble in alcohol, chloroform, ether,†† benzol, carbon disulphide, and somewhat soluble in water. We have not suc-

*We simply state that we were misled. The crystals that we obtained were not of lobeline, but an impurity that intimately accompanies it and crystallizes more easily under the influence of acid liquids. Our crystals compare too, with Procter's description.

†We dislike to affix a name to a body that is so obscure in its classification as this now is. We find also that the various forms of the word *lobelia* is entirely monopolized. Hence, we reluctantly select *inflatin* for want of a better name.

‡Some use magnesia, thinking that ammonia decomposes the alkaloid. Any alkali and heat will do so, but dilute ammonia in presence of ether does not alter it in appreciable amounts. Magnesia does not entirely decompose the salt (acetate) and a free alkali is necessary.

§It does not necessarily follow that because this body was once entirely dissolved in acidulated water, it will completely redissolve after being dried.

¶We think that former investigators failed to break up this mixture by using ether and alcohol only as solvents. These liquids dissolve the entire associated products, and acid water will also do so to an extent, although pure *inflatin* is insoluble in water.

||See *inflatin*, p. 76.

**We make no claim to originality in the method of making lobeline. Our process differs somewhat from others it is true, but, perhaps not materially. The aim is to divest the seeds of their oil, extract the alkaloid in stable condition and eliminate impurities without the application of more chemistry than is necessary.

††Wittstein in his *Organic Constituents of Plants* states that lobeline is insoluble in ether. This is a mistake.

ceeded in crystallizing it. It is not hygroscopic (Wittstein contra.) In pure condition lobeline can be exposed to the air for days, and is probably permanent. We evaporated by exposure, a solution in water rendered strongly alkaline by ammonia,* which changed to yellow, showing some decomposition, but which retained all the sensible properties of the alkaloid, remaining very acrid and being a violent emetic.

Lobeline turns red with sulphuric acid, yellow with nitric acid and dissolves colorless in hydrochloric acid. Heated with sulphuric acid it turns black; with nitric acid evolves the usual vapors of nitric oxide, with formation of a yellow liquid; and hydrochloric acid evaporates from it unchanged.

Salts of lobeline are very soluble in water and those we have examined dissolve in alcohol and ether, but very slightly (excepting the acetate) in carbon disulphide.†

From moderately strong aqueous solutions of the salts of lobeline, alkali precipitates the alkaloid, white, flocculant, amorphous and odorless. This precipitate dries to a glassy layer that will powder white,‡ but this must be cautiously performed as minute amounts of the dust excite violent irritation of the nostrils, air passages and lungs, equal to, if not more intense than veratrine.

All the alkaloidal reagents precipitate lobeline from aqueous solution of its salts.

We have as yet failed to crystallize salts of pure lobeline, but we think that such a positive alkaloid will furnish crystals under proper conditions.§

Lobeline and its salts are among the most powerful of emetics, and extremely small amounts of the solution of the colorless alkaloid, (one drop being placed on the tongue) *immediately* vomited those to whom we administered it. There was no unpleasant after effect (see medical properties.) In the crude condition, as former investigators have obtained it from ethereal solution (even colorless as we made it) decomposition occurs and it rapidly darkens.

Résumé.—The alkaloid lobeline has evidently been impure as heretofore described, and may not be pure as we obtain it. Others state that it is yellow and has an odor; this certainly is erroneous for we produced it colorless and odorless. Others have obtained what was considered crystalline salts; we also formerly thought this easy, but found the crystalline material to be an impurity, to which we can find no previous reference. It has never been analyzed, but, if our present line of manipulation is successful, further remarks will follow, and a combustion made by recognized authority.

Having considered the most prominent constituent of lobelia, we shall now pass to the most characteristic principle which as before stated we have for descriptive purposes designated as inflatin.

Inflatin.—This substance exists ready formed in lobelia herb and seed, and may be extracted together with the fixed oil and chlorophyll by means of carbon disulphide. Since the oil passes with the inflatin through most solvents and holds it in solution when the other solvents are evaporated, it is not feasible to separate inflatin from the extracted oil, although, we have obtained it by saponifying the oil and separating the soap.

Inflatin has certainly been obtained by the investigators who produced crude lobeline, beginning with Prof. Procter, but owing to its intimate association with that alkaloid, and with the volatile oil of the plant, and to its refusal to crystallize while associated in this manner it has been overlooked.¶

The glassy layer first obtained in the evaporation of lobeline from the ethereal liquid, if moistened with acid solutions will upon drying assume a partly crystalline condition. This led us

*It is stated that alkalies destroy lobeline at once. This is incorrect.

†This solvent which seems to have been overlooked by others enabled us to purify the crude lobeline as already stated and as further explained under inflatin.

‡This differs from statements of others, who describe it as an oily liquid.

§Sulphate of lobeline is quoted in commerce. We see no reason for presuming that if demanded in quantities it should not be crystallized. We also think that manufacturers who have a demand for the alkaloid should have been able to exclude the crystalline substance that we have found to accompany it.

¶Even if it has crystallized, the solvents formerly employed redissolve both it and the associated principles.

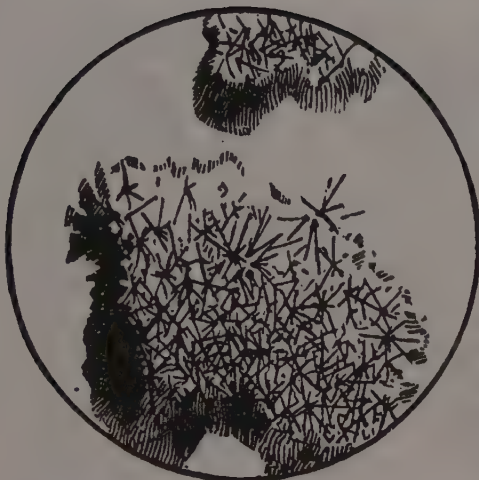


FIG. 138.

Inflatin (at first supposed to be sulphate of lobeline) crystallized from in a few hours into small white warty aggregations, perhaps (if very impure) ethereal liquid.

imbedded in a viscid, tenacious, more or less yellow semi-liquid. These globules are *inflatin*, destitute often of crystalline form because of the pressure of the surrounding medium. Occasionally an isolated globule like *a*. fig. 139 will resolve itself into a fragment like *b*. fig. 139, and we have seen these globules under the microscope become crystalline strata without change of shape.



FIG. 139.

Globules of inflatin; *a*, the ordinary crude form; *b*, same, partly crystalline.

Thus purified the crystals may appear like figures 140, 141, 142 and 143, dependent on the rapidity of the evaporation and depth of the liquid. Where the liquid is very thin, we observe a display like figure 140; if deep they will appear like figure 141; if deep enough to permit the typical crystal to form, they will mostly be diamond shaped† as shown in figure 142.

Since we have discovered the characteristics of this material, we have obtained it easily as follows: Abstract the greenish oil from powdered lobelia seed by benzine, stopping the percolation

(see page 75) to conclude that the salt of lobeline had crystallized, and figure 138, as before stated was drawn under the supposition that it was a sulphate of lobeline. These crystals with varying conditions assume different forms, and hence, we were more easily misled when we used the several acids.

Preparation of Inflatin.—Evaporate in thin layers the ethereal solution of crude lobeline (obtained by process on page 75) adding hydrochloric acid to slight excess. To the sticky product before completely dry, add a few drops of carbon disulphide,* and after flowing it about decant the solution into a shallow vessel. Repeat the operation with successive portions of carbon disulphide, and mix the liquids. It is best, if working small amounts, to allow the preceding portion to evaporate each time before adding the other.

The final product will resolve itself in a few hours into small white warty aggregations, perhaps (if very impure) aggregations, perhaps (if very impure)



FIG. 140.

Crystals of inflatin from a thin layer of benzol solution.

*This leaves the hydrochlorate of lobeline.

†The goniometer must be used to determine their exact crystalline form. They appear to us as our artist represents them.



FIG. 141.

Crystals of inflatin from benzol solution.

does not affect it, even the smallest crystals remaining sharp and distinct. Hot sulphuric acid decomposes it with formation of a black liquid.

Cold nitric acid has no action upon it, but develops the forms and angles of a crystalline layer under the microscope in magnificent distinctness, the centers of each crystal being pure white, and the ends jet black as shown by figure 143 *a*, developed from a slide of which 143 *b* is a part without the nitric acid. Upon heating with nitric acid inflatin melts without change of color, and upon evaporation of the acid, and resolution in benzol, crystallizes as before.

Upon boiling inflatin with Fehling's solution it turns brown, then black, but does not reduce the copper and does not dissolve.

Inflatin melts at 225° F., and at a lower temperature cools to a mass of crystalline structure.

Résumé.—From the preliminary examination that we have given this substance, we conclude that it is either a stearoptene or a vegetable wax, probably the former. Perhaps in mechanical suspension it produces the milky juice of the plant, but we did not discover it in time to examine the juice of the herb during its season. It is evidently of no medicinal importance, and, is of interest we think simply because of its association with the other constituents of lobelia.

Volatile Oil of Lobelia.—Lobelianin.—All parts of the herb of fresh lobelia are pervaded by a volatile oil of a strong pungent odor, but with little taste and no acidity. It was described by Procter, (see p. 74,) 1838, who found that the tincture of lobelia, or the herb, distilled with water gave a distillate of a peculiar odor. Pereira, 1840, gave it the name *Lobelianin*, and stated that it had an *acid* taste, but, Procter, 1842, decided that he was mistaken on this point, and, our investigations support Prof. Procter.*

when the percolate ceases to pass of a green color, (this abstracts much inflatin also.) Dry the magma and extract it by means of carbon disulphide. Evaporate the carbon disulphide and cool the residue. It will crystallize to a magma of inflatin and a fixed oil. Place on bibulous paper and warm it, the oil is absorbed and the inflatin can be purified by crystallization.

Properties of Inflatin.—Inflatin is pure white and from carbon disulphide tends to form nodules of a crystalline structure or in great crystalline plates. The various modifications of the crystals are shown by figures 140, 141, 142 and 143. The typical crystal is diamond shaped and perfectly transparent.

Inflatin is odorless, tasteless and refuses to unite with acids or alkalis. It is insoluble in water or glycerin, but soluble in carbon disulphide, benzol, chloroform, ether and alcohol in the order we have given. Sulphuric acid

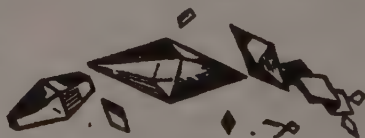


FIG. 142.

Crystal of inflatin, typical form.

*We made a careful examination, distilling water from quantities of the herb, both fresh and dry, and we used the utmost care to avoid the passing over of spray with the vapor. The product gave simply (from the green herb) a volatile oil that could be separated by sulphuric ether, but it does not accumulate in amount sufficient to separate from the distillate unless the temperature be very low.

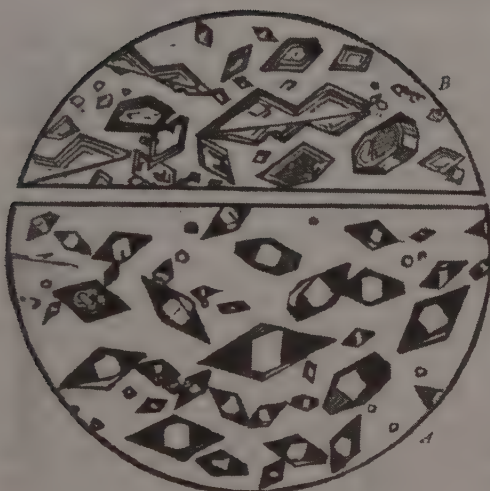


FIG. 143.

Crystals of inflatin, *B*, before; *A*, after action of nitric acid.

It slowly evaporates upon exposure to the air and disappears.

Sulphuric and nitric acids dissolve it and upon heating a slide of crystals to which a drop of nitric or sulphuric acids had been respectively added, the nitric acid evaporated without apparent change, while the sulphuric acid blackened and evolved empyreumatic vapors. It retains its crystalline form in ammonia water and liquor potassa.

We could not determine if more than one oil is obtained by the act of distillation, but, it is probable that such is the case.

We endeavored to obtain the substance we have called *inflatin*, by oxidation of this oil, but failed, although it is apparent that some constitutional difference exists in the volatile oil of fresh lobelia and that of dry. The oil of fresh lobelia did not crystallize in our hands.

Has Lobelia a Volatile Alkaloid?—

Prof. Procter, 1838,[†] found that both tincture of lobelia and the herb, with water, upon distillation gave a distillate of a peculiar odor,



FIG. 144.

Crystals of concrete volatile oil of lobelia, from benzol solution.

Crystals of concrete volatile oil of lobelia, from benzol solution.

*Perhaps this name is inappropriate and should not be applied to a concrete volatile oil. However, it was first given by an authority we all respect and it has precedence.

[†]American Journal of Pharmacy, 1838, p. 304, experiments 4, 5 and 6.

but destitute of acrimony. Pereira, 1840,* stated that it had in addition an *acrid* taste, which Procter, 1842,† decided was a mistake. Bastick, 1851,‡ states that "lobeline is volatile."

We made a careful examination, distilling water from quantities of the fresh herb. We used the utmost care to avoid the passing of undistilled liquid with the vapor, and failed to obtain either an alkaloid or an acrid distillate.§ The product was of strong odor, from it sulphuric ether dissolved the oil, but there was no trace of acidity or of an alkaloid. Then we used dry fresh lobelia in ten pound lots, with water, and with water that was made alkaline with caustic potash. In both cases the distillate was free from acidity and refused to affect any alkaloidal reagent.

We made a solution of pure sulphate of lobeline, rendered it alkaline with caustic potash, and distilled it to one-third. The distillate gave evidence of decomposition products, but no lobeline came over.]

We therefore conclude that lobelia does not contain a volatile alkaloid, and that lobeline is not volatile. There is no reason that we can see to suppose that the alkaloid lobeline is chemically related to the alkaloid nicotine. That they have been associated is probably from the unfortunate name for lobelia, Indian tobacco, and the fact that the plants and alkaloids resemble in taste, and that both are emetic.

LOBELACRIN. (SO CALLED).—Enders, 1871,¶ obtained a substance that he named *lobelacrin*. It was produced by exhausting lobelia with alcohol, adding charcoal and distilling. The charcoal was washed with water, treated with boiling alcohol, the alcohol evaporated and the residue extracted with chloroform. Upon evaporation of the chloroform "warty tufts" of a brown color were obtained. This, Enders named *lobelacrin*. Lewis considered it perhaps a *lobelinate of lobeline*. We consider it a mixture of the oil (fixed) of lobelia, the substance that we have called *infusin*, a brown resin, some lobeline and coloring matter. According to our examination, it is really a mixture of such substances as are extracted from lobelia by alcohol, and having refused to dissolve in water are soluble in chloroform. It will be evident to the reader that this process certainly cannot separate the oils, wax and like bodies. That an organic acid is present is also probable.

Fixed Oil of Lobelia.—Lobelia seed contains thirty per cent. of non-volatile oily matters. The true fixed oil of lobelia is bland and non-acrid. As usually obtained, even by expression, it is acrid from contaminations. Menstruums that dissolve the oil also dissolve the chlorophyll, hence it has a green color as extracted from powdered seed. Pure fixed oil of lobelia has never been used in medicine and would be of little value.

An impure oil is a favorite with Eclectic physicians, who use it alone and associated with other substances. It is a constituent of Compound Sillington liniment,** an excellent remedy, which in our opinion depends mainly upon this impure oil, which is simply a syrupy extract of lobelia seed, made with stronger alcohol acidulated with acetic acid.

Other Constituents of Lobelia.—There is a characteristic brown resin, coloring matters, and the usual constituents of plants. If the resin in alcoholic solution be precipitated by water even in presence of acid water, it carries with it a large amount of lobeline. This we thought to be a distinct alkaloid, but became assured after purification, that it was simply lobeline.††

COMMERCIAL HISTORY OF LOBELIA.‡‡—Since the day of Thomson, lobelia herb has been an important American drug. Growing abundantly in the Eastern States the first supply came from that section, but collectors in other parts subsequently gave it attention, and in domestic use and otherwise it is now a

*Elements of Materia Medica, vol. ii., 1846, p. 385, (and preceding edition.)

†American Journal of Pharmacy, 1842, p. 4.

‡Phar. Journ. and Trans., 1851, p. 270.

§The herb for these experiments was gathered to order and selected plant by plant. There was no foreign substance present and the lobelia was prime.

¶The neck of the retort was plugged near the retort with a strainer of linen to retain the spray. The neck was inclined to throw the condensed liquid back into the retort. Thus only the vapor passed to the condenser. In the large still with the herb, the exit for vapor extended upward 25 feet to the condenser and a spray could not pass over.

¶Pharmacographia, p. 400.

**See unofficial pharmaceutical preparations of lobelia, to follow.

††Many resins have strong affinities for alkaloids and other constituents of plants. They act somewhat like animal charcoal, carrying them from solution and holding them tenaciously.

‡‡This article should properly follow our description of the drug, p. 67.

drug collected over most of the country in which it abounds. The mountainous part of North Carolina furnishes large amounts.

During its early record when Thomsonism made unexpected demands, and collectors were few, the drug occasionally became scarce, or entirely out of market. Thomson was accustomed to warn his followers of this fact and advise them to secure a supply of "No. 1,"* the first opportunity. He states that in 1807 an offer of one thousand dollars per pound would have failed to procure the drug, and that at another season, two dollars an ounce could not purchase it.† However, at present, it is plentiful and the steady demand is easily supplied.‡

Lobelia seed, however, often becomes exhausted and occasionally out of market. After an unusually dry season it is scarce. Two years ago it could not be collected. This year (1886) the market is glutted. The demand is small, and, few dealers care to procure more than is necessary for use in one year. Besides, the general drug trade consumes but little, the demand being almost exclusively from a limited number of specialists, who as a rule obtain their stocks from the collectors and do not depend upon the dealer in drugs.

The "Herbalists,"§ of England, now regard lobelia with much favor, as is evidenced by their action in consequence of an endeavor, recently made by the Law and Parliament Committee of the Pharmaceutical Society, to have lobelia placed on the "English Poison Schedule."|| They state that they use the herb freely, probably some hundreds of pounds yearly.

PHARMACOPŒIAL HISTORY.—The Pharmacopœia of the Massachusetts Medical Society, 1808, under the name *lobelia*, recognized "the root" of *Lobelia syphilitica*. The first edition of the U. S. Pharmacopœia, 1820, as *lobelia* introduced "the herb" of *Lobelia inflata*, using as a synonym the common name Indian tobacco. This was accepted by the New York, (1830,) and the Philadelphia, (1830) editions. In 1840 the term Indian tobacco was dropped and has not since been recorded, although lobelia has been officinal in each successive revision.

The fact that the Massachusetts Pharmacopœia recognized *the root* of *Lobelia syphilitica*, doubtless aided in perpetuating the mistake of so many medical writers who have stated that the root and top of *Lobelia inflata* is employed in medicine.

Every revision of the U. S. Pharmacopœia has recognized the herb of *Lobelia inflata* as "lobelia" and in no instance has *Lobelia syphilitica* been accepted or the root of any species of *Lobelia* recognized.

*See note † page 85.

†Thomson's Guide and Narrative.

‡Thomson asserts that an abundant crop one season is followed by failure the next. We have also observed this, but, we find that it is often scarce for a series of seasons, owing to climatic influence probably, and occasionally is unusually plentiful.

§In the "Year Book and Transactions of the Society of United Medical Herbalists of Great Britain," 1885, we find 111 members recorded.

||English Poison Schedule, see note § p. 88.

PHARMACOPŒIAL PREPARATIONS.—The first (1820) edition of the U. S. Pharmacopœia gave a process for making tincture of lobelia, two ounces of the herb to sixteen fluid ounces of diluted alcohol. This proportion was continued through each succeeding revision to 1880, at which time the strength was made two parts of lobelia to ten parts of tincture.

Acetum Lobeliæ, introduced in 1860, was made two parts of lobelia to diluted acetic acid, enough to produce sixteen fluid ounces, and in 1880 it was changed, one part of lobelia producing ten parts of the finished vinegar.

It will be observed that the strength of the tincture was increased about one-half in 1880, while the strength of the vinegar was decreased nearly forty per cent. We think that they should have been made identical in strength.

In 1880 the fluid extract of lobelia herb was introduced, diluted alcohol being employed in making it after the usual process for fluid extracts.

UNOFFICIAL PHARMACEUTICAL PREPARATIONS.—Scattered throughout medical and pharmaceutical literature we find many formulas for lobelia preparations. These preparations are still in more or less demand, and occasionally in considerable local use. We reproduce them with as little alteration as possible. The uses and doses are as we find them recorded, and in many cases would be considered inordinate at present.

Cataplasma (Poultice) of Lobelia.—Powdered lobelia herb, two ounces; powdered slippery elm, one ounce. Wet with whiskey; apply to rheumatic part.—(Sick Man's Guide, Lukens, p. 115.) This original compound was evidently followed by Prof. King in the following:

Cataplasma of Lobelia.—To equal parts by weight of powdered lobelia and elm bark add a sufficient quantity of weak lye to form a cataplasma. Used for painful swellings, inflammation of the breast, stings of insects, etc.—Am. Disp.

Enema of Lobelia.—Take of compound tincture of lobelia and capsicum, half a fluid drachm; water, half a fluid ounce; mix them together. A relaxant and antispasmodic clyster. Used in convulsions of infants.—Am. Disp.

Aqueous Extract of Lobelia inflata.—Lobelia seed, powdered, eight ounces; diluted alcohol, four pints; acetic acid, one ounce. Mix the acid and diluted alcohol and percolate the lobelia seed. Then evaporate to a soft extract.—(Prof. W. Procter, American Journal of Pharmacy, 1842, p. 108.)

Fluid Extract of Lobelia, Compound.—Blood root, skunk cabbage root, lobelia herb, of each four ounces. Make a fluid extract in the usual manner. An emetic, expectorant and antispasmodic. Used as a substitute for acetated tincture of blood root. Dose, from 10 to 60 minima.—Am. Disp.

Lotion of Lobelia, Compound.—Bayberry bark, lobelia herb, yellow dock, of each two drachms; vinegar, one pint; macerate for seven days and filter. Used for local applications in cutaneous diseases, such as erysipelas, inflammation, etc.—Am. Disp.

Liniment of Lobelia.—Stew the seeds of Lobelia inflata in animal oil. This is used to relax rigid muscles and contracted limbs by rubbing it in the skin.—Western Medical Reformer, 1837, p. 206.

Liniment of Stillingia, Compound.—Oil of stillingia, one fluid ounce; Oil of cajuput, half a fluid ounce; Oil of lobelia, two fluid drachms; alcohol, two fluid ounces; mix them together. Used in chronic asthma, croup, spasmodic diseases of the throat and lungs. Apply to the parts affected and take a few drops internally on a lump of sugar.—(Am. Disp.) The Lobelia we think is the chief constituent.—L.

Lobelia Seed with Sugar.—Powdered lobelia seed, powdered white sugar, of each four parts; rub well together and add one part of nerve powder; two parts of capsicum, and add the mixture to thirty-two parts of number six.—Thomsonian, Materia Medica, 1841, p. 699.

Syrup of Lobelia—Vinegar of Lobelia, six fluid ounces; sugar, twelve troy ounces. Dissolve by heat, skim, add a little acetic acid, and strain.—Prof. W. Procter, American Journal of Pharmacy, 1842, p. 109.

Oxymel of Lobelia.—Add one part of strained honey to two parts of sour tincture; heat to boiling point, skim and bottle.—Kost's Domestic Medicine, p. 329.

Syrup of Lobelia, Compound.—Lobelia, four parts; blood root, two parts; macerate in thirty-two parts of vinegar for one week; strain with pressure. Pleurisy root, four parts; Solomon's seal, two parts; cover with boiling water and keep hot one day, adding water to produce thirty-two parts of infusion. Mix the two liquids, bring to a boil and add forty-eight parts of sugar. Relieves cough; efficient in croup; used in all cases where it is desirable to increase secretion from the air passages. An excellent diaphoretic, used in all cases of cold.—Domestic Medicine, (Scudder,) p. 530.

Syrup, Wall's Vegetable.—Onions, sixteen parts; Spikenard, eight parts; Horehound, four parts; Lobelia, two parts; Pleurisy, two parts; Skunk Cabbage, two parts; Water, forty parts. Mix, boil, strain; evaporate to eight parts. Add thirty-two parts of honey; sixteen parts vinegar, and sixteen parts gin. Dose, one tablespoonful.—Improved System Botanic Medicine, 1830, p. 386.

Pills of Aloe and Lobelia, Compound.—Extract of boneset, mandrake, ginseng, of each two drachms; aloe, eight drachms; gamboge, castile soap, of each four drachms; capsicum and lobelia seed, of each one drachm; oil of cloves, two minims; make into a pill mass, and divide into four grain pills. Cathartic. Useful in dyspepsia, constipation, jaundice, etc. Dose, from two to four.—*Am. Disp.*

Pills, Emetic.—Extract of peach leaves, poplar or butternut bark, one ounce; capsicum, one teaspoonful; powdered lobelia seed, half an ounce; nerve powder, two teaspoonful, and a few drops of oil of peppermint. Mix and make into pills.—(*Thomsonian, Materia Medica*, 1841, p. 699.) (Very indefinite.—*L.*)

Pills of Lobelia.—Lobelia seeds, capsicum, and scullcap, each, equal amounts. Make two grain pills. Dose, one to two, every two hours. Three to five at bed time, with composition tea. Uses: coughs, hoarseness, croup, asthma, etc.—*Botanic Physician*, (Elisha Smith).

Powder, Expectorant.—Powdered skunk cabbage root, four ounces; powdered unicorn root, two ounces; powdered lobelia seeds, one-half ounce; mix. Dose, half to a teaspoonful.—*Improved System Botanic Medicine*, 1832, p. 385.

Powder of Lobelia, Compound.—Lobelia, six drachms; blood root, and skunk cabbage, of each, three drachms; ipecac, four drachms; capsicum in powder, one drachm; mix them together. Used in all cases where an emetic is indicated. It vomits easily and promptly without causing cramps or excessive prostration. Dose, half a drachm every fifteen minutes in an infusion of boneset, until two drachms have been taken, or the patient vomits.—*Am. Disp.*

Third Preparation.—One ounce of powdered lobelia seed; one ounce of capsicum; one tablespoonful of nerve powder; mix; add to half a pint of Number Six, (No. 6). This is Thomson's great remedy, known also as Rheumatism drops and Hot drops.

Antispasmodic Tincture.—Tincture lobelia, tincture capsicum, of each, sixteen fluidounces; tincture nervine, twelve fluid ounces. Dose, from half a teaspoonful to a tablespoonful. Used as an antispasmodic, and in large doses as an emetic.—(*Improved System of Botanic Medicine*, Howard, 1832, p. 379.) This is the original formula from which Prof. King devised:

Tincture of Lobelia and Capsicum, Compound. (King's Expectorant.)—Lobelia, capsicum and skunk cabbage, of each, two ounces; diluted alcohol, a sufficient quantity to make two pints of tincture by percolation. This tincture is a powerful antispasmodic and relaxant. Used in cramps, spasms, convulsions, tetanus, etc. Dose, half a teaspoonful as the case may require.—*Am. Disp.*

Tincture Lobelia herb.—Bruise fresh lobelia, press firmly into a jar, cover with alcohol, after a few days strain and press. To each quart add one ounce of essence of sassafras. Used as an emetic, and for external application to wounds, bruises, inflammations, ulcers, eruptions, etc. Dose, one to ten teaspoonfuls.—(*Improved System Botanic Medicine*, 1832, p. 384.) The original tincture of lobelia. Dose, now heroic.

Tincture Lobelia seeds.—Digest four and one-half ounces of powdered lobelia seed in a pint of alcohol.—*Improved System Botanic Medicine*, Howard, 1832, p. 379.

Tincture of Lobelia, Compound. (King's Expectorant.)—Lobelia, blood root, skunk cabbage, wild ginger and plerisy root, each in moderately fine powder one part; water, sixteen parts; alcohol, forty-eight parts; make a tincture in the usual manner. An excellent remedy for children and infants. Used as an expectorant, as a nauseant in coughs, asthma and where expectorants are indicated.—*Am. Disp.*

Tincture of Lobelia, Etheral.—Lobelia herb, five ounces; spirits of sulphuric ether, two pints. Make a tincture by percolation.—*Edinburgh Dispensatory*, 1841.

Tincture of Lobelia and Hydrastis.—Hydrastis, lobelia seed, of each, two parts; diluted alcohol, sixteen parts. Make a tincture by percolation. A valuable local application.—*Am. Disp.*

Tincture of Sanguinaria, Compound.—Blood root, lobelia, skunk cabbage, of each, two parts; distilled vinegar, thirty-two parts; alcohol, two parts. Make two pints of tincture by percolation. Used as an emetic and expectorant. Dose, twenty to sixty drops.—*Am. Disp.*

Tincture of Viburnum Opulus, Compound.—Lobelia seed, skunk cabbage, stramonium seed, capsicum, blood root, of each, one part; diluted alcohol, one hundred and twenty-eight parts. Make a tincture by percolation. Stimulant and antispasmodic. Used in asthma, hysterics and nervous diseases. Dose, twenty to sixty drops.—*Am. Disp.*

Well's Cough Drops.—Tincture lobelia, one ounce; anodyne drops, two ounces; antispasmodic tincture, one ounce. Dose, half to a teaspoonful.—*Improved System Botanic Medicine*, 1832, p. 382.

Sour (Acid) Tincture of Lobelia.—Made the same as the ordinary tincture, vinegar being used instead of the alcoholic menstruum.—(*Kost's Domestic Medicine*, p. 309.) This is the original of the official Vinegar of Lobelia.

MEDICAL HISTORY.—Several annoying features in connection with the history of this plant are considered by us, and an endeavor is made to study them in chronological order.

The first printed record of the emetic properties is by Rev. Manasseh Cutler,* who named it emetic weed.

*Account of Indigenous Vegetables.—*Am. Acad. Sciences*, 1785, p. 484.

Manasseh Cutler, L.L.D., was born in Killingly, Conn., May 3, 1742. First he engaged in the whaling business, then in merchandise in Edgertown; studied law and was admitted to the bar in 1769; removed to Dedham, studied theology, was licensed in 1770 and ordained minister of Hamilton, September, 1771. He became chaplain of Col. Francis' regiment, September, 1776, fought in the action in Rhode Island, and for his bravery received a present of a

Schoepf, 1787,* next incorrectly ascribed astringent properties to *Lobelia inflata* and stated that it was used in ophthalmia. He had confused the two species and affixed the properties of *Lobelia inflata* to *Lobelia syphilitica*.

Then came Samuel Thomson,† who introduced the plant into medicine

fine horse. He also studied medicine and other branches of science. He became a member of the American Academy in 1787, contributing a series of scientific papers to its memoirs in 1786; his botanical paper being the first attempt at a scientific description of the plants of New England. In this paper we have the reference to the emetic properties of lobelia, which is the first printed notice of the nature of the plant, but he did not use it in medicine.

With Dr. Beck he prepared the chapter on trees in Belknap's history of New Hampshire; became a member of the Philosophical Society of Philadelphia, 1784; as agent for the Ohio Company he purchased 1,500,000 acres of land, northwest of the Ohio river, 1787, and started the first emigrants to that section, who settled at Marietta, Ohio, April 7, 1788. He accompanied them in a sulky, returning to New England in 1790. Gen. Washington appointed him Judge of the Supreme Court of Ohio Territory, 1795, which honor he declined. He was member of Congress from 1800 to 1806.

In the prosecution of Samuel Thomson, 1809, Cutler was called as an expert to identify the remedies Thomson used. It was about this time that he (Cutler) became interested in the use of lobelia as a remedy for asthma, (see Thacher's Dispensatory, 1820,) and there is reason to believe that his attention was drawn to it by Thomson and his followers, as before this Thomson had used the herb in that disease and his followers were numerous throughout all of New England. Cutler died in Hamilton, Mass., July 28, 1883.

**Materia Medica Americana*, 1787, p. 128.

†Samuel Thomson was born in the town of Alstead, State of New Hampshire, February 9, 1769. His early life was spent in hard labor upon a farm, and his education was limited. He commenced medical experiments when about ten years of age by vomiting his playmates with lobelia, and afterward became as is known, the champion of this herb. He married Susanna Allee, of Surrey, New Hampshire, July 7, 1792. His medical investigations commenced in the treatment of his own family, and then he began to gather roots, herbs and barks and to practice empirically in the families of his neighbors. That he also studied the medical literature of his day is evident from his publications, although he delighted in believing himself entirely independent, and was very caustic and aggressive towards the Regular Medical Profession.

In due course of time, Thomson became known outside his immediate neighborhood. Thus, in 1806, he made a professional trip to Richmond, in 1806 was called to New York City to use his "treatment" on Yellow Fever, and in 1807 to Vermont. After this he traveled considerably over the New England States, and eventually through the West in the practice of his peculiar theory.

During these trips his combative nature led him continually into heated arrangements of members of the Regular Medical Profession, who bitterly denounced his treatment, resulting finally in an open charge of murder against him in 1806, for "sweating" (see note*, p. 85) two children to death," and again, in 1807 for killing a certain Captain Trickley, who Thomson declared that he had not treated at all. Finally, in 1809, a Dr. French, between whom and Thomson there had long existed an intense animosity, preferred charges, and Thomson was arrested for the wilful murder of a young man named Lovel, who had died under his attention. Dr. French charged that he "did kill and murder the said Lovel with lobelia, a deadly poison."

Thomson was thrown into prison at Newburyport, Massachusetts, November 20, 1809, where he remained suffering the severe cold of that country without fire or comfort until December 10th, when he was taken to Salem, Mass., for trial, his friends having succeeded in inducing Judge Theophilus Parsons to hold a special session of the court. However, owing to sickness of the Judge, his trial did not occur until December 20th. The prosecution seemed to base their charges on the fact that the powder given Lovel was lobelia, a Dr. Howe testifying to that effect. The defense showed, however, that Howe was not acquainted with lobelia, and also that the powder Drs. Howe and French thought to be lobelia was marsh rosemary root. (Thomson asserts that this was what he administered). Finally the court acquitted Thomson, without, as he claims, an examination of his witnesses. However, Tyng's Reports, vol. vi., states that on the claim of ignorance only did the Judge instruct the jury to acquit Thomson, and our view of the treatment as shown by the report is to the effect that both lobelia and the marsh rosemary were administered.

This was the memorable "Trial of Thomson," but it did not end the assaults of his adversaries. Thomson entered suit for damages against Dr. French, March, 1810, and failed in his prosecution, losing much time and more than six hundred dollars of costs.

In 1811 a doctor in Eastport, Me., while Thomson was passing his office door, tried to kill him with a scythe, and it seems that even Thomson now became discouraged, for he writes: "I found I had enemies on every hand, and was in danger of falling by some of them. Everything seemed to conspire against me."

In March, 1813, he obtained a *patent* to protect on his system of medicine, known thereafter as "Thomson's Patent."

We find that although Thomson was very bitter regarding the Regular Profession generally, he spoke in the highest terms of Drs. Rush and W. P. C. Barton, of Philadelphia, with whom he had several interviews.

Dr. Thomson died in Boston, Mass., 1843, after a tedious application of his own medicine, known as Thomson's Course, (see note* p. 85).

We have consumed considerable space in recording the principal points in the life of an exceedingly, energetic

about 1793 under a peculiar system of practice or theory,* in which he used classes† of crude drugs in a system of courses,‡ lobelia being the first class and

and zealous man, who boasted of his illiteracy, never attended a college, or received a lecture in medicine, but who created a lasting excitement in the medical world of America, and who still has many earnest followers under the name Thomsonians, although his methods of treatment are very much modified.

His life was marred by sufferings and quarrels. He was in a constant turmoil and fearlessly attacked his opponents, however high their positions. Defeat did not dishearten him, success nerved him to greater aggressions. Enemies arose within his camp towards his latter days and he met them as fearlessly as he did the "Regulars." We cannot, but admire the tenacity with which he adhered to his views and practice. If he had been permitted to receive a thorough education, and had been led to systematise his labors, his indomitable spirit and tenacity of purpose would have doubtless made him conspicuous among the pioneers of America, either within the medical profession or otherwise. It will yet be our duty to review Thomson's Theory in the practice of which it was claimed (1834) that thirty thousand persons were enrolled. They were then generally known as "Lobelia Doctors" "Heaters," "Steamers," and "Sweaters."

¶Samuel Thomson believed, "that all diseases are the effect of one general cause and may be removed by one general remedy, is the foundation upon which I have erected my fabric." This is a positive statement, showing the views he held of the various disease expressions. The reader must not however, infer (as antagonists to Thomson misstated) that by the term "one general medicine" he meant a single drug. Upon the contrary, he used many drugs and he states, "all diseases might be cured by one general remedy or principle, applied in a great many forms as medicines."

Origin of Disease.—"I found that all diseases to which the human family were subject, were, however various the symptoms and different the names by which they were called, produced directly from obstructed perspiration."

Cause of Obstructed Perspiration.—"If there is a natural heat, there must be a natural perspiration." Obstructed perspiration "is always produced by cold or the absence of a suitable degree of natural vitality."

Heat is Life.—Arguing from the foregoing, Thomson announced the axiom that has since become attached to his followers: "Heat is life and cold is death." He did not perhaps mean this in a literal sense, but, he believed that a low temperature (cold) caused disease, and that fever a friend was an effect of cold. "The cold causes an obstruction and fever arises to remove it." This view is not peculiar. Perhaps, the religious of the Sun worshippers may be considered about the same. "Coffinism" of England was similar.

Canker.—In all Thomsonian works the name is conspicuous. Dr. Thomson believed that a "white feverish coat" was caused by cold and attached itself to the mucous membranes of the stomach and bowels. This he called canker. "Canker and putrefaction are caused by cold. If this growth of canker is not checked and removed, it will communicate with the blood, when death will end the contest between heat and cold." Dysentery is caused by canker in the bowels. The piles is canker below the reach of medicine in the usual way. What is called bearing down pains in women is from the same cause.

Object of Medication.—According to Thomson should be to produce a great internal and external heat to prevent the formation of canker and throw it to the stomach, and then to remove it from the stomach by emetics. Astringent in Thomson's opinion, combined with this secretion (bayberry and other like bodies); stimulants promote perspiration (capsicum, steam, etc.); emetics remove the canker from the stomach.

¶Thomson arranged his remedies into classes and numbered them, often individualizing a drug by making it the conspicuous member of a class. Thus, Emetics made Class No. 1, and lobelia being his great emetic was simply called "No. 1." He would say, "then administer No. 1."

The classes were as follows:—Class No. 1, "Emetics, to cleanse the stomach, remove obstructions and promote perspiration," lobelia being typical.—Class No. 2, "Stimulants, to raise and retain the vital heat of the body, and promote free perspiration," capsicum being typical.—Class No. 3, "Astringents, to scour the stomach and bowels and remove the canker," bayberry and composition being typical.—Class No. 4, "Bitters, to restore digestion, and correct the morbid secretions of the blood and bile," hydrastis, populus, etc., being typical.—Class No. 5, "Restorative Tonic, compounded to correct digestion, and strengthen the stomach and bowels," wild cherry being typical.—Class No. 6, "Antiseptics, to give tone to the stomach and bowels, and prevent mortification," myrrh and a compound tincture of myrrh being his favorite. The familiar No. 6 of the present day, is modified from Thomson's formula.

The enemies of Thomson have asserted that he first administered No. 1, if that failed, used No. 2, and so on until through with the list if the patient still lived.

¶The following condensed accounts of the system of Thomson's Courses is taken from the American Vegetable Practice, by Mattson. In Thomson's works the directions are not so explicit as herein given, as it seems that he depended to an extent upon the personal instruction of himself or his agents.

Thomson's Course of Medicines.—1st. Give the patient a teacupful of hot bayberry tea, (No. 3,) then an injection of a cup and a half of an infusion of bayberry and a teaspoonful of lobelia. Sometimes the lobelia of this injecting fluid is increased and a teaspoonful of capsicum added.

and. When the injection has operated, a steam bath is to be applied to the patient and a second teacupful of bayberry tea. If he does not perspire freely, in ten minutes, give a third teacupful of tea, and add to this last a teaspoonful of capsicum. In about twenty minutes, remove the patient from the bath, and, into a warm bed (sometimes a cup of ice water was dashed over the person upon removal of sweat bath) with a hot stone to his feet.

his principal remedy. He met the opposition of most Regular physicians, who bitterly decried the indiscriminate use he made of drugs, and he eventually was arrested (1809) and tried for killing a patient with lobelia. This trial brought lobelia before the public, and from that time to the present, lobelia has been in more or less demand and has come into use by all schools of medicine. Accounts of its uses and accepted medical properties in the different schools have been written for this work by authorities of these schools.

In studying the history of the introduction of lobelia into medicine the following questions have at various times arisen and attracted more or less attention and discussion by our medical writers.

1st. *Did the North American Indians use Lobelia inflata?*—In our next article on *Lobelia syphilitica* it will be seen that Sir William Johnson, preceding 1800, bought a cure for syphilis from the Indians, which turned out to be the root of *Lobelia syphilitica*. It is asserted in most medical works that the American Indians used *Lobelia inflata*, but this assertion is not supported by the testimony of any writer we can find who was acquainted with the medicines employed by the Indians, and the pioneer travelers of America (Shoepf excepted, see p. 84,) failed to refer to the plant. We, therefore, conclude that these writers have confused the *Lobelia syphilitica* of Johnson with *Lobelia inflata*.

Carver, who spent many years of his life among the Indians, and described the plants, trees and medicines of the tribes among whom he traveled, does not mention it.

Lewis and Clark speak of the use of the vapor bath, but do not mention that *Lobelia inflata* was used by the Indians of the Upper Missouri. Speaking of syphilis among the Indians they say: "When once a patient is seized, the disorder ends with his life only." They state of the Chippewa Indians, (p. 136,) that, "their specifics are the root of the lobelia and that of a species of sumach." It is evident that this is not from observation, as the Chippewas, (also known as the Ojibwas,) were not the Western Indians. They embraced many formidable tribes about the great lakes. Into their country Sir William Johnson extended his treaties, and his statement regarding *Lobelia syphilitica*, is evidently the source of the statements by Lewis and Clark.

The book of the Indians, 1837,† gives no instance of its use by the Indians, or of any other emetic.

The paper on "Indian Medicine,"‡ by Browne, does not refer to any substance that can be identical with lobelia.

Major Long, 1819, in his account of the medicines and practice of the Indians of the West, evidently knew nothing of *Lobelia inflata*.

Professor Nuttall informed Dr. Mattson that in his excursions among the Indians he had never known them to use *Lobelia inflata*.

3rd. Add a heaping teaspoonful of powdered lobelia herb to a cupful of the capsicum and bayberry tea, give at one dose, or, infuse five teaspoonfuls of lobelia in a cup and a half of hot water and take in three doses even if each dose vomits.

4th. After the vomiting ceases, a second steaming is administered, giving the patient a cup of hot ginger or composition tea while in the bath. Then if the patient "has sufficient strength" he may dress, and if not he must be put into a warm bed. This concludes the "course."

5th. Bitters and tonics are then administered. If the malady is not cured the course must be repeated. "Miss B—, of Lynn, Mass., took twenty-seven courses for a malignant disease of the stomach." "I knew a gentleman with dropsy to whom a course was administered once a week for nine months," etc.

This severe method of treatment gave rise to the doggeral once applied to Thomsonians:—

"I puke, I purge, I sweat 'em,
And if they die, I let 'em."

*The Expedition to the Sources of the Missouri, Lewis & Clarke, vol. ii., pp. 135 and 136.

†Book of the Indians, Boston, S. G. Drake, 1837, A very interesting and unique publication.—L.

‡Indian Medicine, J. M. Browne, in Indian Miscellany, p. 74. (Edited by W. W. Beach, 1877).

The interesting narratives in "Indian Captivities," contain no record of *Lobelia inflata*, although rich in the experiences of persons, who passed many years among the Indian tribes east of the Mississippi.

Samuel Stearns, M.D., 1772, in his *American Herbal*, mentions other species of lobelia, but not *Lobelia inflata*, and he makes no reference to the Indians using an emetic. Dr. Stearns was a native of Massachusetts and traveled among the Indians of that State with intent to study their remedies, and would not have omitted this plant if it had come under his observation. Neither Schoepf, Barton, nor Rafinesque mentions *Lobelia inflata* as an Indian remedy from personal experience, and none of these authors would have neglected it, if aware of its being in use.

Catlin,* in his explicit descriptions of Indian customs omits it.

However, Mattson, 1841,† states that, "There is abundant traditionary evidence that it was used by the Penobscot Indians long before the time of Dr. Samuel Thomson, its reputed discoverer, but with the exception of that tribe, I have not been able to discover by any researches I have made, that the American aborigines had any knowledge of its properties or virtues."‡ Mattson, however, neglects to give any positive testimony, or refer to any authority.

Dr. G. A. Stockwell, in a very recent article§ omits it, and thus helps to confirm the fact that lobelia was not used by the Indians.

Therefore, from authorities quoted, and numbers of other works searched without avail, we conclude that the evidence is altogether against the reiterated assertion that *Lobelia inflata* is a drug handed down to us from the American Indians. We cannot find proof of a single instance where it was employed by them. If the Penobscot Indians used the plant, as Dr. Mattson believed, (from tradition) it is possible that the adjacent settlers learned of its properties from them, but we would more rationally accept that the early use of *Lobelia inflata* in domestic medicine was an accidental discovery of the whites. Those were days of heroic remedies; bleeding, emetics and blisters were the methods of treatment, and it is not to be presumed that so remarkable and common an emetic as lobelia could remain unknown. That Thomson and Cutler learned of its emetic properties by independent personal experience is undeniable we think, Thomson especially insisting that he stumbled upon it.

It is a common belief with some persons that the Indians used the lobelia in connection with their "Sweat Baths" to clear their minds, and remove their ailments, but our endeavors to find the authority for such statements have resulted in failure. The "Medicine Men," it is true, pretended sometimes to vomit bones, by which the future was foretold, but, this if not a deception had no connection with the medical uses of lobelia, and there is no evidence at our command to support the supposition that the whites learned of its properties from the Indians, or that the Indians used it in medicine.

2nd. *Did Samuel Thomson discover the Properties of Lobelia independently of others?*—Thomson asserts that,§ sometime in early life (1773) I discovered a plant which had a singular branch and pods. The taste and operation produced were so remarkable that I never forgot it. I afterwards used to induce other boys to chew it, merely for sport to see them vomit. I tried this herb in this way for nearly twenty years without knowing anything of its medical virtues. This plant is what I have called the *emetic herb*.¶

*Manners, Customs and Condition of the North American Indians, Catlin, vol. i., p. 186.

†Mattson's *American Vegetable Practice*.

‡Thomson believed that the reference to the use of lobelia by the Indians was an intentional misstatement in order to rob him of the discovery, he writes:

"It is said by Thacher, that it was employed by the aborigines, and by those who deal in Indian remedies; and others, who are attempting to rob me of my discovery, affect to believe the same thing; but this is founded altogether upon conjecture, for they cannot produce a single instance of its having been employed as medicine, until I made use of it. The fact is, it was a new article, wholly unknown to the medical faculty, till I introduced it into use; and the best evidence of this is, that they are now ignorant of its powers, and all the knowledge they have of it has been obtained from my practice.—Thomson's "New Guide to Health," 1822, p. 52.

§Popular Science Monthly, "Indian Medicine," G. A. Stockwell, M.D., Sept., 1886, p. 649.

¶New Guide to Health, p. 16.

¶Ibid, p. 27. We must not forget that this was written after the trial of Thomson, and then it seems, there was an intense feeling between Thomson and Cutler.

Thus it seems that Thomson understood the emetic nature of *Lobelia inflata* before 1793, but, he asserts that, "I tried this herb in this way for nearly twenty years without knowing anything of its medical virtues." He further admits this by saying, "It had never occurred to me that it was of any value in medicine until about this time (1793). I have since found by twenty year's experience in which time, I have made use of it in every disease I have met with, to great advantage, that it is a discovery of the greatest importance."

Thus Thomson admits that he knew nothing of the use of lobelia in medicine preceding 1793, and the first record we have of his making use of it in asthma is in 1807, to wit: "In the fall of 1807, I introduced lobelia, tinctured in spirit, as a remedy in asthma."

Mattson, 1841,* states however, that "it was used as a remedy by many people in New England, long before his (Thomson's) time." He recounts as follows:

"Mr. Phillip Owen, now eighty years old, relates that when a boy he was sent into the field by his mother to collect some lobelia for a child, sick with the quinsy, and that the herb, administered in the usual manner, afforded speedy and entire relief." This would show a use of it at about 1770.

"Mr. William Coburn, who also reached his eightieth year, says that lobelia has been used as a medicine in the state of Maine, both by the people, and the Penobscot Indians, ever since he can remember, which is a period of not less than seventy years." This also carries us back to 1770.

Dr. John A. Hyde, of Freeport, Maine, a very old physician states that, the people in that vicinity were in the habit of using lobelia under the name colic weed, when he first settled in the town, which was about fifty years ago. He says they employed it in various complaints, but particularly in colic, and considered it perfectly safe and harmless." This carries the use back to 1799, and antedates Thomson again.

Dr. E. Harlow, of New Lebanon, Conn., writes under date of May 15, 1835, to a gentleman in Boston: "I commenced the vegetable or botanic practice of medicine about 1796, under the instruction of Dr. Root, of Canaan, Conn., who was esteemed as an able botanic physician. He made use of lobelia under the name Indian tobacco, and taught me the use of it; and from that period to the present, I have continued to employ it in my practice. I may also state that Dr. Forbes, of Lebanon, used it when I was a boy, and from that circumstance it received the name of "Forbes weed." And lastly, "Doctress Charity Shaw Long, of Albany, N. Y., secured a patent for the use of *Lobelia inflata*, in 1812, which was one year in advance of Thomson's patent."

Thus from evidence that is entitled to credence it seems that lobelia was somewhat known as a domestic medicine, when Thomson was one year old, and there is little doubt that its use in household practice long antedated any positive information that can be found in print at this late day. Nevertheless, Thomson introduced it to medicine, and none will dispute that Samuel Thomson made lobelia a familiar name to hundreds of thousands of Americans; that he made it notorious none can deny. Whether the domestic uses of lobelia (by a few persons) could have served to give Thomson a start with his "Practice" is a question of little moment. He distinctly asserts that such was not the case, and that he discovered and introduced lobelia independently of all others. In our opinion his statement is entitled to credence. He was intensely enthusiastic on the lobelia subject, and when writers on medicine ignored his claims, to give credit to Cutler and Drury, he considered it an act of injustice, and he expresses himself on the subject as follows: "They cannot produce a single instance of its having been employed as a medicine till I made use of it."

This tendency to neglect him, and, as he believed to persecute him for opinions sake, finally induced Thomson to seek Government protection, both for legal and monetary considerations, resulting in "Thomson's Patent."

Is Lobelia a Poison?—A recent endeavor has been made in England to place lobelia on the "Poison Schedule",† and in studying the record we find that in several instances legal steps have

*The American Vegetable Practice, Mattson, vol. i.

†Mattson and Thomson were at first friends, but afterward were enemies. It seems to us that Mattson makes it a point to show that Thomson was not first to use lobelia.

‡Thomson's Mat. Med. and Anat., 13th edition, p. 585.

§English Poison Schedule, (1868). This is an English law, designed to protect the public against intentional and accidental poisoning. Among the omissions are such energetic bodies as sulphuric, nitric and hydrochloric acids,

been taken to punish persons, who, it was claimed had destroyed life by the injudicious use of this drug. The trials of Dr. Thomson* and Dr. Frost† have attracted the most attention.

In reviewing the cases we find few convictions resulted, and, even then the sentences were light. It seems to us that the prosecution failed because as a rule the evidence did not show that lobelia was really a poison. The members of the Regular Medical Profession were usually the aggressors and seemed anxious to convict, but evidently had at that time but little personal acquaintance with the drug. Their statements in court were usually based upon the papers in Thacher's and Cox's Dispensatories, whereas, the Thomsonians would produce abundance of testimony to show that lobelia in immense doses, far beyond the amounts named as poisonous by the prosecution was continually taken without fatal effects. They would bring as witnesses those who had taken the drug, and they evidently impressed the court with the fact that the Thomsonians were more familiar with lobelia, than were the members of the Regular Medical Profession.

There was another factor in this case, that we cannot underestimate. The cry of oppression and persecutions was raised and the sympathies of many people enlisted in behalf of the Thomsonians from this stand. The Thomsonians of that day were not altogether uneducated as some now suppose. Upon the contrary, we find that many highly cultivated persons adopted their methods and bought the "right." Prof. Benj. Watterhouse, (Professor of Theory and Practice of Medicine in Harvard,) was zealous, also Prof. Tully, of Yale, and throughout New England Thomson numbered his followers by thousands, from among the best informed families. Thus it is, that Thomsonism did not meet the popular disfavor that it held with the Medical profession. To sum up we may be pardoned for observing,

We believe that lobelia is not an active poison, but that injudicious use might result fatally, as is true of other moderately energetic remedies. No doubt more fatal effects would result from its use if it were not so violently emetic that the effect of a poisonous dose of the drug is first to expel it from the stomach.

The physiological investigations of Prof. Roberts Bartholow following, show conclusively that the alkaloid lobeline is poisonous and will produce death in animals.

THE ACTIONS AND USES OF HYDROBROMATE OF LOBELINE.—(Written for this publication by Prof. Roberts Bartholow, M. D., LL. D., Professor of Materia Medica, General Therapeutics and Hygiene, in the Jefferson Medical College, of Philadelphia.)—*Preliminary.*—This research consists, for the most part, of my own experiments and observations. Facts obtained from other sources have been adopted when my own experiences were in harmony with them. The preparations used were furnished me by Prof. J. U. Lloyd, whose name is a

(the English Journals often give records of death by them). We presume that the commerce of that country would render it useless to attempt to control these substances. Ergot and oil of savin are listed, and it seems that to these should be added oil of cedar, oil of tansy, oil of pennyroyal, and perhaps gossypium bark, if the unborn are to be considered. Oxalic acid is named, but binxalate of potassium (a common drug here) omitted. These and other features seem to us to indicate that the list should be revised, and certainly twenty years in our country would demand a revision.

In the recent excitement in England over a death after taking lobelia, many writers urged that lobelia be placed on the poison schedule. In our opinion, this could not be consistently accomplished without adding ipecac, turpeths mineral, and perhaps other like substances. Doubtless, English pharmacists generally agree that a careful revision of their poison schedule is desirable, but, we doubt if it will ever be possible to include all moderately energetic drugs that by abuse may produce death, as is perhaps true of lobelia. In our country lobelia is not considered to our knowledge in any list of poisons. Our hillsides are covered with the herb, its properties are well known, and it is never used as a poison by those inclined to produce death, but is freely employed as an emetic by country people.

*See note † p. 84.

†Dr. R. K. Frost, of New York City, was arrested and tried December 13, 1837, for killing Mr. T. G. French by putting "him into a vapor bath" and administering "poisonous concoctions of lobelia" and "giving deleterious herbs which no reasonable man would administer to a dog." This trial, next to that of Thomson, exhibited the intensity of feeling that existed at that time, and from over the entire country it attracted the attention of persons who were the least interested in medicine. It lasted ten days and the jury returned a verdict of "guilty of manslaughter in the fourth degree," and recommended the accused to the mercy of the court. He was sentenced to three months imprisonment. The history of this trial was issued in pamphlet form (104 pp.) and used by the Thomsonians over the country to show that they were persecuted.

sufficient guarantee of their genuineness. They consisted of one per cent., and one-tenth per cent. solutions of the hydrobromate of lobeline. The investigation includes the physiological and clinical actions of this remedy.

General Result of the Action in Cold and Warm-blooded Animals.—Given in sufficient quantity, an increasing failure of muscular power, staggering and incoordination, retching and salivation, are observed in from five to fifteen or twenty minutes after it is administered. First occurring in the hind extremities the evidences of muscular paresis, then extend to the fore members. The frog becomes less and less able to jump and to turn over from a position on the back, and the rabbit yields in the hind legs, reels, and at length can no longer control these members, and the forearms and arms soon after are disabled in the same manner, sensibility and the brain functions remain unimpaired. Before the paralysis has become complete, if the amount given has not been too large, the receptivity and response to peripheral impressions is for a short period somewhat more ready, and this is, more especially true of frogs. The respiratory function is embarrassed in proportion to the general paralyzing action. After a period of rather slower respiration it becomes quicker and increasingly shallow and laborious. With the lessening supply of oxygen, carbonic acid narcosis comes on, and death ensues with complete muscular resolution and without convulsions in frogs, and usually with clonic convulsions in rabbits the failure of respiration being the immediate cause.

Action on Nerve and Muscle.—When the sciatic nerve is isolated, the limb ligatured, and a merely paralyzing dose is administered, the nerve when excited by a faradic current at the earliest period of the action responds feebly, for the muscles of the limb below the ligature contract but slightly. When the paralysis is complete at length the strongest excitation of the nerve causes no response in any degree of muscular contraction. When this occurs the muscles are found to be readily excitable on direct electrical stimulation. It follows hence that lobeline destroys the excitability of the motor nerve endings, and does not impair the contractility of muscle.

There is a stage in the action of small doses, however, when the irritability of motor nerve and muscle is actually heightened: when the paralyzing effect is just beginning to manifest itself after the administration of one minim of the one per cent. solution, a slight tap on the skin of the back causes an immediate response in general muscular movement of a tetanic character. From this it must be concluded that when the first impression of lobeline is making, the nervous tissue is irritated by the medicament, but as the action continues and increases, the irritation is succeeded by loss of function. Furthermore, when the effect of lobeline in small quantity is such as to cause general muscular contractions on irritation of the skin (heightened cutaneous reflex) it is obvious that the physiological effect is not limited to the motor-nerve endings, but includes the spinal cord as well. It may be suggested, that the paralyzers, whose action is first felt by the intra-muscular nerve elements really act through the spinal

cord and not as is now supposed on the nerve endings only at the beginning.

Sensibility remains unimpaired, certainly, up to the period of the cessation of all muscular contractility, for the corneal and other reflexes are preserved until then. When the action of lobeline has attained its maximum, the paralysis is complete, and there is no response to any form of irritation.

Effects on the Circulation and Respiration.—When the fullest effect of lobeline is attained in the frog, if the chest be opened the heart will be found still in action at about 28 per minute, but the contractions are not energetic, although rhythmical. If the medulla be previously divided, the heart will be found at a standstill, its cavities distended. If in action, electrical stimulation increases it; if at rest, a strong faradic current will start the auricle in active movement, and the ventricle in feeble and irregular contractions chiefly of the basic portion.

The most important of the effects of lobeline on the heart, is its action on the vagus. At first, and with a small dose, the vagus is briefly stimulated, then depressed in function, but, it is completely paralyzed at the period of maximum effect, and no strength of current will then stop the heart. With a minute dose, the effect first produced is irritation of the vagus, with slowing of the heart, but as the effect deepens, the heart grows more rapid with lessening of the inhibition. It is probable that every first dose given, causes some slowing of the heart's movements, but this effect is so transient and slight that it escapes detection. With the decline in the inhibition there ensues increased action of the heart and lowering of the vascular tension. The body temperature rises somewhat *pari passu* with the increased rapidity of the circulation. As the respiratory muscles fail in power, the breathing becomes more and more labored, panting and shallow. The oxygenation of the blood is progressively diminished carbonic acid accumulates, the lips are cyanosed, and stupor is succeeded ultimately by coma. Up to this point the mental processes are not disordered, and the sensibility remains unimpaired.

Therapeutical Applications of Lobeline.—To avoid all subjects of controversy, I confine my observations to facts personally ascertained, and give the results of my own therapeutical uses of this remedy:

Having ascertained that lobeline possesses the power to lessen the reflex action of the spinal centres, I have administered it in those maladies characterized by irritability or exaltation of this function. In *epilepsy* it appears to be a most promising remedy if right conditions exist: It is the less useful, the more decidedly the convulsive seizures approach the epileptiform character; and it is more effective, the nearer the cases are to the true or essential type. The bromides may be quite successful in arresting convulsions due to coarse lesions of the brain, although not acting on the structural changes in any way. Now lobeline does not act favorably in such conditions.

In nocturnal epilepsy, which, as is now well known, does not usually yield

to the bromides, and in the cases not arising from an obvious peripheral irritation or accompanied by a defined aura, in the pale-anæmic and lymphatic type of subject, the best results obtainable from this remedy may be expected. As, however, definite conclusions can be formed only after sufficient length of observations the real value of the hydrobromate of lobeline must be ascertained by comparative trials through several years. Now, it can be asserted merely that this remedy promises well.

More definite results can be given from the administration of lobeline in certain neuroses of the respiratory organs, as *asthma*, *whooping-cough*, *pseudo-angina pectoris*, in the *spasmodic cough* of emphysema, the *cough* of habit, renal and other *reflex asthmas*. Somewhat more specific statements can be made as respects its utility in all these cases.

In that form of asthma, which is merely a functional disorder, the best results may be expected from it. The dose at the outset should be about 1-60 grain, and this can be repeated in a half hour when the attack is acute and severe, and afterwards *pro re nata*. When the attacks are recurring and persistent, the lobeline should be given three times a day from 1-60th to 1-30th grain, in persons having the ordinary susceptibility to its action, and 1-20th grain in those with less. When desirable or circumstances require, it may be combined with morphine, or cocaine, or both. The asthmatic seizures which attend emphysema are often quite promptly relieved by it. When in the course of chronic bronchitis, the mucous membrane furnishes but little secretion and the cough is dry and harrassing, lobeline acts very efficiently. It has also appeared to do great good in cases of pseudo-angina pectoris, with weak action of the heart and embarrassed respiration. By lowering the vascular tension and lessening the work of the heart by relaxing the inhibition, the pulmonary circulation is carried on with greater ease, and hence the distress of breathing subsides. There is here, as I conceive, a most important sphere of usefulness—for this morbid complexus is by no means uncommon, and we have not many agents capable of affording the direct relief given by lobeline.

THE HOMŒOPATHIC USES OF LOBELIA INFLATA.—(Written for this publication by Prof. Edwin M. Hale, M. D., Emeritus Professor Materia Medica and Therapeutics in the Chicago Homœopathic College).—I consider that the sphere of action of this species lies midway between tobacco and veratrum album, or their active principles, nicotine and veratrine. It acts upon the motor-nervous system and upon the respiratory centre in the medulla.

The nauseous effects of this drug are far more intense than tobacco, and this is the principal reason why it is not used for the same purpose as tobacco. Another reason is that the system does not tolerate the drug, as it does tobacco. I have, however, seen habitues of lobelia, who, from taking it for asthma and dyspepsia, came to tolerate it to a degree which seemed surprising.

Lobelia inflata was first introduced into our school in this country at the same time and in the same manner as the Lobelia syphilitica, (1838). In 1841 it was in-

roduced into homœopathic practice in Europe by Dr. A. Arac, of Leipsic, in the 15th volume of "Hygiea." Since that time it has been used to a considerable extent in our practice, but although a powerful drug, its curative sphere is limited.

We find it useful principally in asthmatic affections. It is useful in two varieties, namely, the nervous, which arises from paresis of the respiratory centre, and the catarrhal or "humid asthma." In the first, it is strictly homœopathic, and has been found curative in very minute doses. In the latter, when the mucus rales are loud, and the sense of suffocation is due to a mechanical obstruction by the mucus, and the coincident spasm of the bronchi, larger doses must be used, for this condition is similar to the secondary effects of the drug. I have seen almost magical relief follow doses of $\mathfrak{z}\text{i}$ repeated every hour, without nausea or vomiting follow its use.

Permanent cures of asthma of many years, have been made by larger doses. Sometimes these large doses (half an ounce) have not caused vomiting. At other times smaller doses vomit violently, leaving the patient much prostrated, but with disappearance of the asthma. I have cured asthmatic attacks by small doses of veratrum, when lobelia seemed indicated but had failed.

In some cases of asthma, the patient complains of a "dreadful sinking sensation" in the epigastrium with violent distressing efforts at inspiration. This is a clear indication for the use of lobelia, and it will promptly relieve such cases in doses of 1-10 or 1-100 of a drop frequently repeated.

In cough, lobelia is very useful. The cough may be caused by accumulation of mucus in the pharynx or bronchi, or a tickling in the larynx, or it may be "croupy," or attended by dyspnoea. In purely nervous coughs, like whooping cough, or from irritation of the laryngeal nerves, motor and sensory. In spasmodic croup, it is a prompt and excellent specific, and I have found it useful in carpo-pedal spasms, attended by laryngismus.

In some gastric disorders, lobelia does excellent service. In the so-called nervous dyspepsia, when the patient complains that nausea, oppression of the stomach, and dyspnoea follow each meal, when there is constant "faintness" at the stomach, as bad after meals as before eating, lobelia in doses of a drop of the one-tenth dilution before and after eating has a very happy effect.

This "faintness" at the pit of the stomach is an unfailing guide to its use. It is caused by a paresis of the sympathetic nerve; other drugs cause this symptom; ignatia, cimicifuga, digitatis, and veratrum, all cause it by their depressing action on the same system of nerves. The primary effect of lobelia on the heart is to paralyze its motor nerves, like tobacco or aconite, hence it is a prominent remedy in primary cardiac weakness and irritation. The "sinking faintness" at the epigastrium is here the symptom most complained of. Small doses must be used to combat this condition. Some patients will bear doses of one or two drops of the tincture, others are made worse by it, and only find relief from the second or third dilutions.

The secondary or reactionary effects of lobelia, is to cause violent spasmodic palpitations, or symptoms closely resembling angina pectoris. In such cases I have found quick and good results from 5 to 10 drops of the tincture.

Primarily, lobelia paralyzes the various sphincter muscles, and can be used in physiological doses, for spasmodic retention of urine, or faeces, or rigidity of the os and perineum. Its use in labor in facilitating the expulsion of the foetus is as old as the aborigines. It has been adopted by midwives and many physicians. I have seen a rigid and undilatable os rapidly give way after a single dose of 20 drops. It will allay and regulate those violent pains in the loins during labor, which seem to arise from the rigidity of the genital passages. In dysmenorrhœa, due to this same cause, small doses give prompt relief. In this respect it resembles gelsemium and belladonna.

In hysteria, lobelia is frequently indicated. The case of spasm of the larynx reported by Dr. Knowles, of Avoca, Iowa, in my "Therapeutics of New Remedies," is an apt example of a manifestation of hysteria, rapidly cured by this remedy. I have controlled the most violent hysterical convulsions by injecting into the rectum a teaspoonful of the tincture.

In gall stone or renal colic, in incarcerated hernia and in spasmodic gastralgia, lobelia often relieves promptly. This may be said to be antipathic, but I do not believe it. The secondary effect of all paralyzants is spasm and convulsions. Lobelia is as homœopathic to spasm, as to paralysis.

MEDICAL USES OF LOBELIA IN THE ECLECTIC SCHOOL.—(Written for this publication by Prof. John M. Scudder, M. D., Professor of the Practice of Medicine in the Eclectic Medical Institute, Cincinnati).—We use lobelia for its emetic, its relaxant and its stimulant influence. It is a fair example of the common fact that the action of a drug depends upon its dose. Emesis may be called its poisonous action, and stimulation its medicinal action. In poisonous doses the drug would prove fatal to life were it not that it is expelled from the stomach and exhausts itself in the act of emesis.

Without discussing the advantages of thorough emesis, as compared with other treatment, it may be remarked that the indications and contra-indications for emetics are as distinct as for other remedies. If the patient has full tissues, full pulse, full tongue, heavily coated at base, with sense of fullness and oppression in the epigastrium, lobelia will act kindly. Conversely if the tissues are contracted, the pulse small or hard, and the tongue contracted and red, an emetic should not be used.

In the early part of the century lobelia in substance (usually the powdered seed) was given as an emetic. From this use came the extreme prostration, with cold clammy perspiration and enfeebled respiration and circulation, a condition known as the "alarming symptoms." There is no doubt, but that lobelia has occasionally caused death, but this result has been rare as compared with the large number of cases in which the drug has been used.

It was not long before it was determined that an acid preparation of lobelia acted more kindly than the crude article, or indeed any other preparation. The acetous tincture was easily and cheaply prepared by simply macerating the herb and seed with vinegar, and whether as an emetic or a nauseant expectorant its influence was certain and kindly.

The relaxant influence of lobelia was twofold, as it was exerted on the voluntary and involuntary muscles. For the first, it was the result of more or less profound nausea, induced by large doses just short of emesis. This effect was frequently called "antispasmodic," and was that desired in infantile convulsions, puerperal convulsions, hysteria, tetanus and some cases of asthma. This protracted nausea was also thought necessary to the establishment of mucous secretion from bronchial tubes, the so-called expectorant action.

Its action on the involuntary muscular fiber was not dependant upon nausea. Probably its best and most certain action was in cases of difficult labor from rigidity of the os uteri. In this case an alcoholic tincture from the seed was employed, twenty drops being added to two ounces of water, a teaspoonful was given every fifteen minutes until dilatation was accomplished.

With a full and oppressed pulse and a sense of oppression in the chest lobelia is one of our most certain remedies. The small doses (tincture of the seed) not nauseant, gives relief and a better circulation of blood.

In neuralgia of the heart, and in angina pectoris, no remedy that I have used gives such prompt relief. Frequently a single dose of ten or fifteen drops of a tincture of the seed will give almost immediate relief.

Before the use of belladonna to remove congestion of the brain (patient being comatose) nothing was deemed so certain as a lobelia emetic. In the eruptive fevers with tardy appearance or retrocession of the eruption, nothing was so effective in relieving the nervous system and bringing the eruption to the surface as a lobelia emetic properly given.

When remedies are used in combination it is almost impossible to determine the action of a single agent. Thus many compounds containing lobelia have been highly commended, and have done good service, but what part should properly be credited to this agent we cannot say. Among these combinations none has acquired a greater reputation than the compound *stillingia* liniment, composed of oils of lobelia, *stillingia* and *cajuput*, with alcohol.* This has certainly a wonderful action in croup, and I have satisfied myself by experiment that a principal action is from the oil of lobelia.

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*This unique publication was issued monthly in the interest of the lobelia practice, during the year 1839. It was not supported, and only one volume appeared. We are indebted to Dr. Charles Rose for the volume complete, probably the only copy in existence. In its front is bound the "Trial of Dr. Frost." We do not refer to pages in this work, its title showing that the entire subject is connected with lobelia.

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 1854.—The Elements of Materia Medica or Therapeutics, Pereira, (Carson's edition,) Vol. II., p. 383 to 387.
 1855.—The Middle States Medical Reformer, pp. 1 to 4, 44.
 1857.—Druggist's Circular, p. 158.
 1857.—Materia Medica and Therapeutics, Mitchell, p. 567.
 1859.—Domestic Medicine, Keet, pp. 307, 362, 366, 380, 383, 437.
 1860.—Pharmacopoeia of the United States, pp. 34, 331.
 1861.—Book of Formula, Tilden & Co., p. 73.
 1864.—Therapeutics and Materia Medica, Stillé, p. 280.
 1864.—Eclectic Medical Journal, Cincinnati, p. 141.
 1865.—American Journal of Pharmacy, p. 211.
 1865.—Proceedings American Pharmaceutical Association, p. 211.
 1866.—American Eclectic Materia Medica and Therapeutics, Jones & Scudder, pp. 13, 112, 113, 235, 675.
 1867.—Eclectic Medical Journal, Cincinnati, p. 269.
 1869.—Eclectic Medical Journal, Cincinnati, p. 239.
 1870.—Pharmacopoeia of the United States, pp. 36, 63, 313.
 1870.—Eclectic Medical Journal, Cincinnati, pp. 206, 400, 445, 476.
 1872.—Botanical Survey of Louisiana, Featherman, p. 96.
 1872.—Eclectic Medical Journal, Cincinnati, pp. 10, 143.
 1872.—American Journal of Pharmacy, p. 293.
 1872.—Pharmacopoeia Homoeopathica Polyglotta, pp. 106, 120.
 1872.—Druggist's Circular, p. 166.
 1873.—Dictionary of Pharmaceutical Science, Sweringer, p. 253.
 1873.—Druggist's Circular, p. 36.
 1874.—Eclectic Medical Journal, Cincinnati, p. 46.
 1875.—Hale's New Remedies, Vol. II., p. 416.
 1875.—On Poisons, Taylor, p. 735.
 1875.—American Journal of Pharmacy, p. 127.
 1875.—Boston Medical and Surgical Journal, Feb. 4th.
 1875.—Druggist's Circular, p. 66.
 1876.—New Remedies, Wm. Wood & Co.
 1876.—Eclectic Medical Journal, p. 125.
 1876.—Journal of Materia Medica, Bates & Tilden, p. 103.
 1877.—Encyclopaedia of Pure Materia Medica, Allen, Vol. V. p. 611.
 1877.—American Journal of Pharmacy, p. 588.
 1877.—The Pocket Formulary, Beasley, p. 237.
 1877.—Pharmaceutical Journal and Transactions, p. 958.
 1877.—New Remedies, Wm. Wood & Co., p. 366.
 1877.—The New Materia Medica and Therapeutics, Goss, pp. 17, 31.
 1877.—Eclectic Medical Journal, Cincinnati, pp. 290, 578, 579.
 1878.—American Journal of Pharmacy, p. 234.
 1878.—Eclectic Medical Journal, Cincinnati, p. 78.
 1878.—Pharmaceutical Journal and Transactions, London, p. 561.
 1878.—Organic Constituents of Plants, Wittstein, p. 122.
 1878.—Dispensatory and Pharmacopoeia of North America and Great Britain, Buchanan & Siggins, pp. 194, 196, 374.
 1878.—New Remedies, Wm. Wood & Co., pp. 21, 24.
 1879.—Pharmacographia, Flückiger & Hanbury, p. 400.
 1879.—National Dispensatory, (and subsequent editions,) p. 859.
 1880.—Pharmacopoeia Homoeopathica, Polyglotta, p. 222.
 1880.—Pharmacopoeia of the United States, pp. 8, 131, 212, 349.
 1880.—Therapeutic Gazette, pp. 34, 94.
 1880.—New Remedies, Wm. Wood & Co., p. 220.
 1880.—Druggist's Circular, p. 158.
 1884.—Plant Analysis, Dragendorff, (Greenish's Translation,) pp. 50, 202.
 1885.—Materia Medica and Therapeutics, Bartholow, p. 583.
 1886.—American Journal of Pharmacy, p. 292.

We do not consider it necessary to mention all the works that refer to this plant and its compounds. Since 1809 medical publications of every description have continually mentioned the plant, and medical references are innumerable. In order to arrive at a correct understanding of the subject, we made comparative studies of the record as found in the preceding works, and have found other publications to present no additional facts. We may safely say that the lobelia history can be as intelligently studied in these as by the aid of additional numberless works that mention the plant.

LOBELIA SYPHILITICA.

BLUE LOBELIA.

PART USED.—The entire flowering plant* *Lobelia siphilitica*, *Linnaeus*.
Natural Order, Campanulaceæ, Tribe Lobeliæ.

BOTANICAL DESCRIPTION.—Blue Lobelia is generally found in damp, low grounds, wet meadows, and especially near streams. The stem is usually unbranched and grows erect from one to two feet high. It is angular below and smooth for the most part, or with a few scattered hairs. It has numerous horizontal leaves and late in summer a terminal showy spike-like raceme of large blue flowers.

The leaves are ovate-lanceolate, tapering to both ends, sessile or the lower with a margined petiole, and are three to five inches long, veiny, soft, dark green above, and lighter beneath. The margins are irregularly, coarsely serrate. The leaves are very numerous, and as they are gradually shorter from the bottom up they give the plant a pyramidal aspect.

The flowers appear the later part of August, lasting till frost. They have the same general structures as those of *Lobelia inflata*, the same characteristic corolla tube, but are much larger, being about one inch long. They are borne on short thick hairy peduncles in a terminal raceme.

The flowers are subtended at their base with leafy bracts which are large and leaf-like below and smaller above. The bracts have margins ciliate with white hairs, and when the plant is just beginning to develop its inflorescence, these bracts form a dense, roseate, terminal cluster, the numerous marginal hairs giving it a glandular appearance.

The calyx segments are five and are triangular, and have recurved margins which are prolonged at the base forming an ear-like appendage at each angle between the segments.† The segments are about three-quarters the length of the corolla tube.

The corolla tube is from one-half to three-quarters of an inch long, split to the base on the upper side, and prominently five-lobed beneath, the interior angles

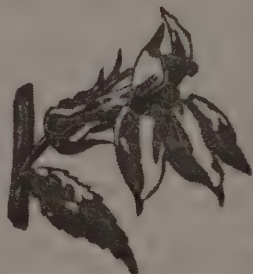


FIG. 138.
A flower of *Lobelia siphilitica*.
(Natural size).



FIG. 139.

The staminate and pistillate columns of *Lobelia siphilitica*; a, front (under) view of a column; b, side view of same; c, pistil, stamens being removed. (Enlarged).

*The Homœopaths who are the only school of medicine that use the plant employ a tincture of the entire plant. When introduced into medicine the root was the part employed.

†These ear-like appendages are not found on all species of *Lobelia* and form an artificial means of dividing the genus.



LOBELIA SYPHILITICA.
(FLOWERING SPIKE, NATURAL SIZE.)

being of a brighter (almost white) color. The three lobes forming the lower lip of the corolla are reflexed, broadly triangular and subequal.

The five stamens are united together around the pistil, forming a column about the length of the corolla and protruding through its slit. This column is three-sided at the base and curved downward at the summit as shown in figure 139, p. 98. The five united anthers are not equal, the lower two being slightly shorter and tipped with a cottony tuft; they are of deep purple color and open with shallow slits down the back.

The pistil is enclosed in the tube formed by the stamens. This is a provision of nature that insures cross-fertilization. When the flower first opens and the stamens shed their pollen, the stigma is completely enclosed by the anthers and thus is prevented from receiving any of the pollen; afterwards when the pollen has been scattered, the style elongates, pushing the stigma a line or two beyond the tube, and is then fertilized by pollen from other flowers, mostly through the agency of bees and other insects.

Blue Lobelia is a very showy plant when in bloom, the deep blue color of the large flowers making it conspicuous. This color is well preserved when the plant is pressed carefully with frequent change to dry papers, but fades out in course of several months from the dried specimens. Sometimes, very rarely however, albinos are found with pure white flowers.*

After blooming the corollas do not fall off, but turn brown, wither up, and remain attached to the ripening seed-pods.

COMMON NAMES.—The most common name and the one most generally used for this plant is Blue Lobelia. While there are other species of Lobelia with blue flowers, (in fact all but a few have this color), still, the flowers of this plant are so much larger, conspicuous and brighter blue than any other, the name properly belongs to it. In most books it is called Blue Cardinal flower, sometimes incorrectly abbreviated to Blue Cardinal, but in our opinion the name is not appropriate. Cardinal flower is a name applied to *Lobelia cardinalis*, not from any resemblance of form to a Cardinal's cap, but from the bright scarlet color of its flowers. *Lobelia cardinalis*, the first species introduced into Europe was very properly called Cardinal flower ("Cardinale couleur de feu"—Tournefort, 1719), and when a second species, but with blue flowers was introduced, it was quite naturally called *Blue* Cardinal flower. We think that this is contradictory, the name Cardinal as applied to the flower refers exclusively to the color, and it is manifestly wrong to speak of Blue Cardinal in the same sense.

It is said that among the more ignorant classes who used this plant in domestic practice, it was known as High Belia, the supposition being that as the other kind (*Lobelia inflata*) was called Low Belia this must be the High Belia.

BOTANICAL HISTORY.—This plant was in cultivation in England as early as 1665, as it was mentioned in Rea's Flora published in London in that year, and it was cultivated in France no doubt a number of years earlier, it being mentioned by Lobelius in 1591.†

*These were noticed and described as a distinct species as early as 1680 by Morrison. Tournefort, 1719, calls them by the common name "Cardinale blanche." They are according to our observation of a rare occurrence. Although the plant is a common one around Cincinnati, we have seen but a single albino. This was growing in a patch of the ordinary blue flowers, and it was pure white without a trace of coloring.

†Lobelius Icones Stirpium, Antwerp, 1591, mentioned under the name *Trachelium Americanum*, flore ca-

In most early works it was described under the generic name *Rapunculus*.^{*} When Linnæus was preparing his *Species Plantarum*, Peter Kalm† had just returned (1751) from America with wonderful accounts of the virtues of this plant as a certain cure for syphilis,‡ (see Medical History), and Linnæus gave the name *syphilitica* as the specific name for the plant.‡

Although its reputation as a cure for this disease has long been disproved, still the name remains, and probably always will, a monument of an early error. It has never had but one synonym, *Rapuntium syphiliticum*, by Miller.

DESCRIPTION OF THE DRUG.—All parts of *Lobelia syphilitica* are devoid of prominent characteristics. The plant is insipid and herb-like, the fresh root has simply a turnip-like taste. The root is the portion that was directed to be used when the plant was introduced, but at present no portion of the plant is an article of commerce.

According to Rafinesque|| it was once analyzed in France, but the result did not show it to contain a characteristic constituent. We did not consider it necessary to make any investigation.

Lobelia syphilitica has never been official, but was recognized by the Pharmacopœia of the Massachusetts Medical Society, 1808. It is not found in commerce and is not used in domestic medicine.

MEDICAL HISTORY.—We have stated above that Peter Kalm in his travels through North America was informed by Sir William Johnson¶ that the Indians used this plant to cure

ruleo. (Linnæus' citation to this in *Species Plantarum*, and in later editions, [not 1st,] is "Rob. l." and Bartoe copies the error).

^{*}*Rapunculus Americanus*, flore dilute cæruleo.—Dodart, *Mémoires pour servir à l'Histoire des Plantes*, Paris, 1676, p. 297.

Same—Tournesfort, *Institutiones Rei Herbariæ*, Paris, 1719, p. 163.

Rapunculus galeatus Virginianus, flore violaceo majore.—Morison, *Plantarum Historia universalis, Oronomialis*, 1680, vol. II., p. 466.

†Peter Kalm was a Swedish naturalist who traveled three years in the northeastern portion of this country from the fall of 1747 to the spring of 1751. He was a pupil of Linnæus, and it was at his advice that the journey was made. On return to Sweden he wrote a detailed account of his travels, which was published in three volumes in 1753, 1756 and 1761, and was translated into German, French and English, the latter translation by J. R. Forster was printed in London in 1770-71.

It was Kalm who furnished the most of the specimens of North American plants described in the *Species Plantarum* of Linnæus. These plants are marked with the letter K, in the Linnæan herbarium, and constitute the greater part of the plants from this country that are in the collection.

When Kalm was in this country he learned from Sir William Johnson of the reputation of *Lobelia syphilitica* among the Indians for the cure of syphilis, and on his return wrote an account which was published in Latin.

‡Kalm published his account in the *Act. Acad. Scient. Holmæ*, under the title "*Lobelia ut efficax remedium contra lueem venereum, a Petro Kalmio descripta*."

And another account in Latin was written in 1756, by Peter Engström, a pupil of Linnæus, and published in the *Amœnitates Academicæ*, vol. IV., p. 324.

‡*Species Plantarum*, Linnæus, 1753, page 931. Described in the Class "*Syngenesia Monogamia*" and with the following specific description.

"*Lobelia caule erecto, foliis ovato-lanceolatis crenatis, calycum sinibus reflexis.*"

||*Medical Flora of the United States*, vol. II., p. 25.

¶Sir William Johnson was born in Smithtown, Ireland, 1715. In 1738 he came to America and located in the south side of Mohawk Valley, about twenty-four miles from Schenectady, N. Y., and embarked in traffic with the Indians whose friendship he managed to secure. He learned their language, studied their customs and won their confidence. He possessed greater influence over them than any other white man, and was adopted into the Mohawk tribe and chosen sachem. In the French war, 1743 to 1748, he was the sole superintendent of the Indians of the frontier; occupied positions of trust in Colonial affairs and embarked with the Indian allies in the wars between England and France. He engaged in the capture of Fort Niagara, 1739, where he had command after Prideaux was killed, and he assisted in the capture of Montreal, 1760. For his service he was awarded a good salary by George II., a baronetcy and \$25,000 by Parliament, and a tract of 100,000 acres of land, north of the Mohawk, known as "Kingland" or the "Royal Grant." This tract of land is now in Herkimer Co., N. Y.

He published a paper on "Customs, Manners and Languages of the Indians. (*Phil. Trans.* Nov. 1779, p. 242). In 1774 he died.

At some period of his life, (date unknown to us, but before 1751 as he communicated it to Kalm) he purchased from the Indians (or a trader) an asserted remedy for syphilis, which proved to be a species of *Lobelia*, and the plant was exported to Europe to cure that disease. From this reason the plant received its name *Lobelia syphilitica*. In this

syphilis,* and upon his return to Europe, published an account of it. This introduced the drug to Europe, and it came into immediate demand, and it was illustrated in Woodville's Medical Botany, which was published in the beginning of this century. We cannot find that Johnson made any written reference to the drug, and we have searched his manuscripts upon file in Albany, which comprise a voluminous correspondence on all matters connected with Indian life on the frontier.† We cannot find a reference in European literature to any statement beside that of Kalm and we therefore conclude that this information derived personally by Kalm, introduced the plant.

Schæpf, 1787,‡ mentioned *Lobelia siphilitica*, but erroneously described to it, nauseating, cathartic and emetic properties, stating that it is acrid, milky, and used in syphilis. He confused the sensible properties of *Lobelia inflata*, with which he was evidently familiar, with the reputed medicinal properties of *Lobelia siphilitica*. Thus, his statements regarding the uses of *Lobelia siphilitica* agreed with Kalm, but there is no evidence to show that he did not derive his information from Kalm's writings.

From the return of Kalm (1751) to Europe, until the introduction of *Lobelia inflata* by Thomson,§ the drug known as *lobelia* was the root of *Lobelia siphilitica*. This is shown by the fact that the decoctions were freely administered, which could not have been the case with a violent emetic like *Lobelia inflata*. Thus, we quote from Buchan, 1793,|| "The patient takes a large draught of the decoction early in the morning and continues to use it for his ordinary drink through the day." This name *lobelia*, led subsequent writers (after *Lobelia inflata* appeared) to confuse the two plants, and the result is sometimes evidenced at present.

Statements have been made to the effect that *Lobelia siphilitica* has diuretic properties, but Prof. W. P. C. Barton, 1802,¶ found that the plant then used by the settlers under the name *lobelia* was *Liatrix spicata*.

Thatcher, 1810,** states on Pearson's word that *Lobelia siphilitica* has cathartic properties, but it is questionable as to the drug employed.

Rafinesque, 1830,†† accepts that *Lobelia siphilitica* is a potent drug, but his views were framed from previous statements. Investigations in Europe demonstrated that *Lobelia siphilitica* was of no value in the treatment of syphilis and it eventually became obsolete. Neither, the Regular, nor the Eclectic sections of American practitioners of medicine employ it at all, and that it is but little employed in Homœopathy is evident from the following article:

THE HOMŒOPATHIC USES OF LOBELIA SYPHILITICA.—(Written for this publication by Edwin M. Hale, M.D., Emeritus Professor of Materia Medica and Therapeutics in the Chicago Homœopathic College.)—This plant was introduced into our practice by the late Dr. Hering. His provings and observations were published in the Trans. Amer. Hom. Institute.

Drs. Jeanes, Williamson and Neidhard, only the latter now living, contributed their experience with this drug. Dr. Jeanes reports a cure of "melancholia" in a woman. He supposed the spleen was affected, for she had "pains under the short ribs of the left side, from front to back." These symptoms are

connection we are led to say upon information received from a gentleman, familiar in the neighborhood of "Johnson's Castle," New York, that by tradition the moral standing of Sir William Johnson was not of the highest, and that possibly he may have had use for the plant himself.

*Johnson purchased the information from the Indians and its announcement was considered of the greatest importance by the medical world. He was imposed upon, however, and it seems strange that a man so versed in Indian customs should have been thus deceived.

†These manuscripts in the State's Dep't Albany show the interest and influence Johnson possessed in early Colonial affairs. His aid was solicited by those high in power and he must have had the unbounded confidence of the Indians.

‡Materia Medica Americana, p. 128.

§See medical history of *Lobelia inflata*, p. 82.

||Domestic Medicine, William Buchan, Edinburgh, p. 513.

¶Collections for a Vegetable Materia Medica, part 2nd, p. 37.

**American New Dispensatory, p. 149.

††Medical Flora of the United States, vol. II., p. 25.

in its provings, and nearly identical symptoms have often been cured by *cimicifuga*. Dr. Neidhard reported a cough of four weeks duration, day and night, with "dryness of the back part of the throat." He also cured cases appearing to be a species of spinal irritation with *sciatica*.

Many of its symptoms remind one strongly of *cimicifuga*, but its chief sphere of action seems to be upon the mucous surfaces of the upper respiratory tract. It causes catarrhal headache, acute nasal catarrh, and much irritation with dryness of the throat. The posterior nares, palate, eyes, nose and mouth are all irritated, much as in hay fever. I would advise it in such cases, and in epidemic influenza, especially in the young. Catarrhal conditions caused by this species, it continued, would readily run into humid asthma.

Rafinesque asserts that its properties are similar to *Lobelia inflata*, but milder. It resembles arsenious iodide, *sticta*, *hepar sulphur*, *cistus* and *cimicifuga*. Our tincture is made from the leaves.

LOBELIA CARDINALIS.

CARDINAL FLOWER.

PARTS USED.—The entire plant, *Lobelia cardinalis*, *Linnaeus*.

Natural Order, Campanulaceæ, Tribe Lobeliæ.

BOTANICAL DESCRIPTION.—There is no difficulty in recognizing this plant without a detailed botanical description. Having the peculiar flower structure of the *Lobelia* genus (described on page 64) it is at once known by its bright scarlet flowers, so brilliant indeed as to attract immediate attention from anyone who sees it in bloom.

In this country we have but two red flowered species of this genus. *Lobelia cardinalis*, which is common over most of the territory east of the Mississippi, and *Lobelia splendens*, very similar in appearances, but confined to the extreme southwest near the Mexican border, and hence, not liable to be confused.

In size, habit and general appearances, the plant resembles *Lobelia syphilitica*,



FIG. 140.
Flower of *Lobelia cardinalis*.
(Natural size.)

Over the greater portion of this country, the two species *Lobelia cardinalis* and *Lobelia syphilitica* are all of the genus that have large enough flowers, (over an inch long) to attract attention; the former having red, the latter blue flowers, they are readily distinguished from each other and from all other species.

The peculiar bright red color of the large flowers of *Lobelia cardinalis* is so bright as to pale almost any comparison we can make. No colored illustra-

tion we have ever seen of the plant does it justice, and the usual fault of colored work is the over-coloring of plants. When the plant is dried carefully the color is preserved as bright as when fresh, and it is very permanent, remaining a beautiful herbarium specimen for a number of years.

As so much space has been given in this work describing the botanical characters of *Lobelia inflata* and *Lobelia syphilitica*, we do not deem it necessary to give a further description of this plant.

BOTANICAL HISTORY.—The richness of coloring of the bright scarlet flowers of this plant attracted the attention of early settlers and travelers, and it was sent to Europe very soon after the discovery of this country. It was first sent to France by the French settlers in America.

Over 250 years ago, (1629,) Parkinson* described and figured it from plants in cultivation in his garden at London and informs us that he received it from France.† He states, "it groweth neere the river of Canada, where the French plantation in America is seated." It soon became common in cultivation in Europe, especially in botanical gardens, and is mentioned in most of the earliest works on American plants.‡

In the very early works it was described under the generic name *Trachelium* or later *Rapunculus*, (see generic history of *lobelia*, p. 66,) and it was called "*Planta Cardinalis*," Cardinal plant, by the earliest French.

Parkinson, the first to describe it, calls it, "the rich, crimson Cardinal's flower," stating, "this hath his name in the title, as it is called in France from whence I received plants for my garden with the Latin name; but I have given it in English."

Tournefort (1719) says, "*Cardinale, couleur de feu*" (Cardinal flower, color of fire). The name is in allusion to the bright, scarlet color of the flowers, which are the same hue as the scarlet hat worn by a cardinal, and not from the shape of the flower. Linnaeus adopted this for the specific name of the plant, calling it *Lobelia cardinalis* by which name it has always been described with the single synonym of *Rapuntium cardinalis* by Miller.

MEDICAL HISTORY AND PROPERTIES.—Schœpf, 1785,§ first referred to this plant, describing it as milky and acrid, and possessing properties similar to those of *Lobelia syphilitica*. It is evident that he knew but little of it.

Barton, 1802,|| refers to the Cherokee Indians using an infusion of *Lobelia cardinalis*, and the powder of the plant, for worms. This is agreed to by Rafinesque, 1830,¶ who also makes very brief mention of the drug. These statements have furnished the foundation for subsequent writers to class the plant with anthelmintics, as is usually done. However, the Indians made but little use of it, if any, preferring *spigelia*, and even Prof. Barton gives but little attention to the drug. The plain facts are that absolutely nothing is known regarding the medical action of the plant.

*John Parkinson was an apothecary of London in the sixteenth century when botany was in its infancy. He wrote two very extensive works, which remain to this day as monuments of his perseverance and labor; the first, *Paradisii in Sole Paradisus Terrestris*, a description of the different species and varieties of plants in cultivation in English gardens and the first work describing and figuring these plants; the second, *Theatrum Botanicum*, a description of all the then known plants of the world, about 3800.

†*Paradisii in sole Paradisus terrestris*, John Parkinson, London, 1629, page 356 and plate 355.

‡Described under the name "Trachelium Americarum, flore ruberrimo, sive Planta Cardinalis."

§1629.—Parkinson *Paradisii*, p. 356.—*Trachelium Americarum flore ruberrimo, sive Planta Cardinalis*.

¶1718.—Ruppius, *Flora Jendensis*, p. 201.—*Cardinalis rivini*.

||1644.—Columna, *Notis et Additionibus ad Rerum Medicarum, Recho.*—*Rapuntium maximum cocciæo spicato flore*.

¶1729.—Tournefort, *Institutiones Rei Herbariæ*, p. 163.—Same.

¶1680.—Morison, *Historia Plantarum*, part 2, page 466.—*Rapuntium galeatum, virginianum seu americanum, sceclææ flore majore*.

¶1737.—Linnaeus, *Hortus Cliffortianus*, p. 426.—*Lobelia caule erecto, foliis lanceolatis obsolete serratis, racemo terminatrici*.

¶1739.—Orenovius, *Flora Virginica*, p. 134.—Same.

¶1740.—Royer, *Flora Leydensis*, p. 241.—*Lobelia caule erecto, foliis lanceolatis serratis, spica terminali*.

¶1748.—Linnaeus, *Hortus Upsaliensis*, p. 276.—Same.

¶*Materia Medica Americana*, p. 128.

¶Collections for a *Materia Medica*, part 1st, p. 40, and part 2nd, p. xiv.

¶*Medical Flora of the United States*, vol. ii., p. 26.

CONSTITUENTS.—Prof. William Procter, Jr., 1839,* made an analysis of *Lobelia cardinalis*, obtaining an alkaloidal-like body as follows. The herb was dried, macerated with water that had been acidulated with acetic acid, the watery product neutralized with magnesia and then exhausted with sulphuric ether. The ethereal solution was evaporated, yielding an aromatic-like oily thick liquid of a brown color. It was soluble in turpentine, ether, and alcohol; was of alkaline reaction, neutralized acids, and formed crystalline salts with acids. Its taste was bitter and acrid. This body was doubtless a mixture of an alkaloid with impurities dissolved by the ether. There has been no subsequent analysis.

Lobelia cardinalis is not a commercial drug and is not used in medicine.

LOBELIA HYPODERMICALLY.

(Discovery of Dr. E. Jentzsch, of Chicago, Illinois.)

HISTORY.—At the meeting of the Illinois Eclectic Association, 1908, Dr. E. Jentzsch of Chicago, read a paper entitled, "Lobelia; A Vegetable Antitoxin." This was of such exceptional importance, by reason of the history of Lobelia, as well as the statement of the physician, as to have led Dr. Jentzsch, before the Society, to fortify his paper by a personal injection of the Specific Medicine Lobelia, into his own circulation, in order to illustrate that it is safe hypodermically.

Following this, at the meeting of the National Eclectic Medical Association, in Kansas City, June, 1908, Dr. Jentzsch again contributed a paper on the subject of Lobelia, a Vegetable Antitoxin, and again, before the Society, he injected the remedy into his own veins, in order to quiet apprehensions concerning its possible energetic nature, when used subcutaneously.

The original paper of Dr. Jentzsch is of interest in connection with this subject, as marking the introduction of a new epoch in the use of Lobelia. Our Bulletin would not be complete without the original article of Dr. Jentzsch, which we therefore present, *verbatim*.

LOBELIA; A VEGETABLE ANTITOXIN.*

THE APPLICATION OF THIS REMEDY IN THE TREATMENT OF DIPHTHERIA.

A paper read at the Chicago meeting of the Illinois State Eclectic Medical Society, 1908.

BY E. JENTZSCH, M. D., CHICAGO, ILLINOIS.

The title of this paper reveals to some extent my intention, which is a desire to inform you of my experience with Lobelia as a vegetable antitoxin in diphtheria. I will confine myself entirely to the therapeutic discussion of the disease mentioned, basing my contentions on personal experience and observations, which extend over a period of nearly four years in about 150 cases of diphtheria, with not a single death.

Right here let me tell you that I have no longing for notoriety nor a desire to reap financial benefit from this. It is merely an effort to reduce, nay, even to abolish, the high death-rate which regularly prevails from this disease. The remedy has proven itself so universally reliable in my hands that I have no doubt that what I claim can be accomplished by you as well.

HOW I CAME TO USE LOBELIA IN DIPHTHERIA.

You may be interested to know how I came to use it. There are two vital points which are responsible. First, my studying eclectic therapeutics; second, the desperate condition of my own child who was then about three years old, due to diphtheria.

* The preparation used by Dr. Jentzsch was an alcoholic preparation of Lobelia Seed, 240 grains to the fluid ounce.

LOBELIA

To save time and trusting that you will credit me with sufficient competency in my vocation, I will say that my boy was stricken with a fulminating case of naso-pharyngeal diphtheria. The serum antitoxin was exhibited promptly in sufficiently large doses and repeated, but with no other result except that the child passed from an active sthenic condition, with dyspnea, into a passive collapse, with apnea. This I had witnessed before and knew it to be fatal with certainty. Instantly I recalled the writings of the great Scudder, where he extols Lobelia as a life-saver.

Thereupon I filled full my hypodermic syringe with the Lobelia and gave the child the entire dose subcutaneously. Strange to say, I gave it with a confidence altogether out of proportion to the circumstances. However, the result proved this to be justified, for the patient responded immediately in a marvelous manner.

All the fatal symptoms gave way to those of returning health, the patient passing from a death-struggle into a peaceful slumber, from which he awoke after three hours, somewhat weak. Another dose was given, which was followed by a still more pronounced reaction for the better. The patient from that time continued to convalesce and, with the exception of a postdiphtheria pharyngeal paralysis, made a rapid recovery, the paralysis yielding to another dose of the same remedy.

LATER EXPERIENCE WITH LOBELIA.

This happened nearly four years ago, and since then I have repeated in many cases the phenomenal experience with this remedy. At first I used the serum and the vegetable antitoxin in conjunction. But gradually I realized that the latter was entirely reliable, doing even better without the serum, so that now I can tell you with absolute certainty that the vegetable antitoxin is in every respect far superior to the serum for the reason that it is more reliable because it acts quicker and with a much greater certainty than the serum and, secondly, it prevents, arrests and cures the disease promptly, irrespective of what other treatment is instituted.

It makes no difference whether it is the first or the sixth day of the existence of the disease, with the exception that in the longer-standing cases the treatment must be repeated more often—every two to three hours, until the desired result is obtained.

I note that Dr. Walls of our City Health Department recommends a repetition of the serum every twelve hours in very bad cases, but it has been my experience that this is a slow and unsatisfactory method and usually of no avail.

The vegetable antitoxin (Lobelia) produces no symptoms whatever except those of returning health. It is therefore preferable to the serum when we consider the unpleasant symptoms which are often produced by the latter and which Dr. Walls takes great pains to pronounce harmless, although he aptly describes them as distressing (and which are known as the serum disease).

WHY THE REMEDY IS EFFECTIVE.

The use of the vegetable antitoxin is consistent with our motto, "*Vires Vitales Sustinendas.*" It strengthens all the vital functions, notably the circulation. It does not dispel the symptoms of the disease at the expense of the patient's strength. It creates no other disease but simply cures the patient, all of which can not be claimed for the serum.

Another feature of the Lobelia is that it is so cheap that the cost need not be considered; besides it is more uniform in quality, does not readily decompose, is easily carried around, and may be given by the doctor with as little ado as a hypodermic injection of morphine. It is safe as well as harmless on account of its nature and origin.

LOBELIA

What I have told you, Fellow Members, is true. I have found it to be so not in a few instances, but in many. However, I want you to convince yourselves and for that reason have given you a demonstration of the benignness of the drug.

I have preached of this before to societies and individual doctors and have found two principal arguments against its use: first, that it is a highly dangerous drug. How well founded this is you may judge by the demonstration I have given. The drug when so given is absolutely harmless. I have given in this manner a half-dram dose to an infant but a few minutes old as a means of resuscitation, with success. Let there be no more fear of this remedy.

The second assertion is that the serum antitoxin gives satisfactory results. Let me quote here the official statistics of the 1906 report published by the Chicago Health Department, which gives 547 deaths out of a little over 5,000 reported cases of diphtheria. This is an average throughout the year of 10 per cent—ten fatal cases out of every one hundred reported.

RESULTS AS COMPARED WITH THE ANTITOXIN TREATMENT

The vegetable antitoxin, in my hands, has transformed diphtheria, an otherwise dangerous and malignant disease, into a benign and harmless affection, the proof of which I have been and am willing to demonstrate to any doctor anywhere and on any case of diphtheria.

MY METHOD OF TREATING DIPHTHERIA.

In conclusion, let me give you a concise description of my method of treating diphtheria. In any case where there is the least suspicion of diphtheria I give a half-dram dose of the Lobelia hypodermically, and repeat in from two to twelve hours, once or oftener, as indicated, until reaction sets in, which means a return to health.

The drug may be used as it is or it may be filtered through ordinary filtering paper; the latter method I have adopted. For those who can gargle I give a half-dram of argyrol in six ounces of water. This I have found to be most effectual from a bacteriological standpoint, as well as the most soothing to a sore throat.

Systematic remedies I give according to specific indications. A prescription most often used by me is:

Aconite,* gtt. 1-4; Belladonna, gtt. 1-6; Phytolacca, gtt. 10; Sarracenia, drs. 2; water, q. s. ad. oss. 4.

Directions: One teaspoonful every two or three hours.

By experience I have found the hypodermic injection best borne by the patient when injected anywhere on the trunk, abdominal parietes, the back and thighs.

As to my theory about the action of this remedy it is briefly stated. I consider it fully the peer of all stimulants of the vascular system, not only in diphtheria, but in any infectious disease, equalizing, so to speak, disturbed circulation. If there is high pressure it acts as a sedative, and if there is low blood-pressure it stimulates, but in any case its secondary action is that of a cardiac tonic.

When used as here described Lobelia is a prompt and most reliable remedy in apoplexy, epilepsy or any condition where the cerebral circulation is disturbed. In collapse due to anesthesia it is unsurpassed; likewise in pneumonia. In diphtheria I believe it has a specific antitoxin property.

This, Fellow Members, is my case. I hope I have made my purpose clear, and I thank you sincerely for your kind attention.

* These were alcoholic preparations representing one grain of the drug to each minim.

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1910.

PHARMACY SERIES, No. 2.

BULLETIN
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MATERIA MEDICA

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PHARMACY SERIES, No. 2.

THE ECLECTIC ALKALOIDS,
RESINS, RESINOIDS, OLEO-RESINS AND
CONCENTRATED PRINCIPLES.

Including Portraits and Biographies of

JOHN KING, WILLIAM STANLEY MERRELL, ALEXANDER WILDER,
WILLIAM TULLY, GROVER COE, ROBERT STAFFORD NEWTON,
EDWARD S. WAYNE, CALVIN NEWTON and JOHN
COAKLEY LETTSOM.

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PREFACE.

It is not necessary to inform the reader that this BULLETIN comprises but a fragment of what needs be recorded, were it our object to present a complete history of the Concentration feature of the American materia medica and its journey within the dates embraced herein. Every page carries its own suggestion of complications in connected or outside lines that must necessarily be wholly neglected, or touched but briefly. Every personage mentioned and every incident depicted leads to some feature of importance that merits more than a passing notice; so much so, that it appears to the author as though the most vital parts of the BULLETIN are too much abridged. To attempt to explain intelligently the many features closely connected with the contents of this BULLETIN would necessitate detailed descriptions and histories of adjacent lines of compounds, as well as of connected classes of pharmaceutical preparations, that in themselves merit as comprehensive a study as the author has herein given the "American Concentrations." Indeed, the necessity of doing justice, even though but scant, to our subject, and yet of neglecting exceptionally interesting subjects, or evading many interlocked complications that uprise in this or that direction, has been one of the most perplexing features of this attempt to make a comprehensive but brief record of the American concentrations, alkaloids, and resinoids. In every direction it seemed as though the efforts of the persons concerned in the products under consideration were irrevocably interlaced with other features of this American problem. For example, the pharmacy of the crude mixtures, decoctions, infusions, and acetates of the early days, the fluid and solid extracts, the essential tinctures, concentrated tinctures, Specific Medicines, and such, of more recent days, as well as the alkaloids, glucosids, and essential oils are not directly embraced in the scope of this publication, but are nevertheless intricately involved therein.

It will be perceived that the so-called Eclectic resinoids, alkaloids, and resins were intruded into the passing along of the science of pharmacy, materia medica, and medicine of the nineteenth century, much as a foreign body, for a temporary purpose, becomes a part of a structure from which it is afterwards excised, leaving in the end a few remnants only to tell the story of its former usefulness. It is as the

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superstructure to a bridge that, supporting the incomplete edifice, is vital to its very construction, but yet is finally torn away by its own builders. All of this, however, and much that needs not be referred to in detail, will unquestionably appeal to the intelligent reader, as it does to the author, who fully, but yet regretfully, comprehends that which lies in the outreaches beyond the subject under discussion.

As concerns the American *materia medica*, its pharmacy and record, the author therefore considers this BULLETIN as merely an introductory chapter, which, with others yet unwritten, antedating as well as following this, would make the story complete. Nor does he hesitate to confess that he hopes some day to supply the missing chapters, as he has learned them. But should want of time necessitate, he must leave this most fascinating subject to the enjoyable opportunity of others.

It has been deemed advisable to introduce portraits of the principal persons involved in this record of the past. Most of those presented were in former times personal friends or acquaintances of the author, but all have passed away. The biographical sketches accompanying the portraits seem naturally, to the author, very brief, but he hopes that enough useful information is presented to introduce each fairly to the reader. Detailed descriptions of the lives of some of these men would necessitate a volume.

It may seem to our readers that many to whom reference is made in this work, but who yet are not portrayed, are even more important than some here presented. This the author appreciates, but will add that in many instances, as with Beach and Scudder, their most conspicuous work was in other sections of the American *materia medica* and pharmacy, and when such portions of the work are taken up in detail, whoever has that responsibility will surely find it necessary to portray and give biographical references to these men. Should the author be permitted to complete this study, as he has intimated he hopes may be the case, such men as Greve, Proctor, Parrish, Squibb, Zollickoffer, Waterhouse, Thacher, Dunglison, Cullom, and others who could well have a place here, but whose work was more conspicuous elsewhere, will surely be presented. Some there were, like Mr. B. Keith, of New York, who should here be presented on account of their prominence in the evolution of the "American Concentrations," but although no effort was spared to obtain biographical data or a portrait, this was found impossible at this late period, much to the author's regret. For a different reason, no special place is given to either Samuel Thomson or B. S. Barton, M. D., the former of whom is the subject of Lloyd Library Bulletin Number 11, while Lloyd Library Bulletin Number 1 reproduces the "Collections" of Barton, both of these Bul-

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letins carrying frontispiece portraits, as well as biographies of the authors named. In consequence of the fact that the portraits would have been too closely crowded together, had they been placed in connection with the pages referring to each, they are distributed promiscuously throughout the work.

The author desires to extend his special thanks to Professor Harvey Wickes Felter, M. D., to whom he is indebted for the photograph of Dr. John King, as well as to his biographies of the two Newtons and Dr. Wilder, in the *Eclectic Medical Gleaner*, published under the auspices of the Lloyd Library. Thanks are due also to the Librarian of the Lloyd Library, William Holden, M. D., and his Assistant, Miss Edith Wycoff, as well as to the Secretary of the author, Miss Margaret Stewart. To all of these the author is deeply grateful, and to their watchful care this BULLETIN owes much.

For the biographies, the footnotes, and all uncredited material of this BULLETIN the author is responsible.

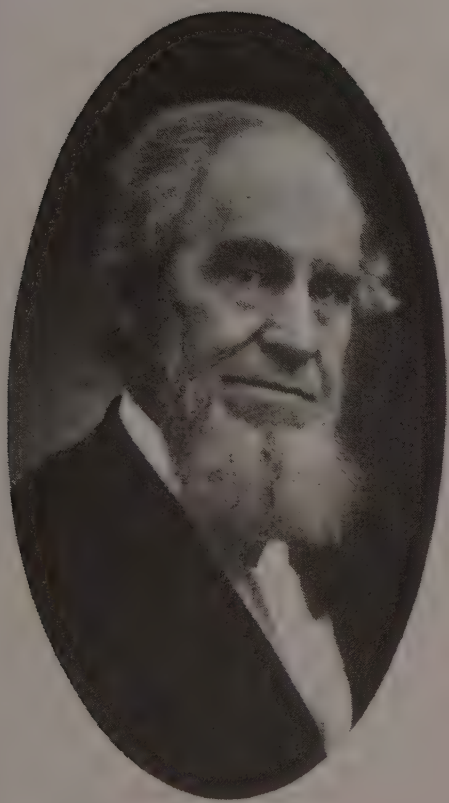
JOHN URI LLOYD.

WILLIAM STANLEY MERRELL, M. D.

William Stanley Merrell, A. M., M. D., whose parents were from New Hartford, Conn., was born at New Durham, Greene County, N. Y., January 8, 1798, and died in Cincinnati, September 4, 1880. He received his primary education in the common schools, studying afterward in Hamilton College, from which he graduated in 1824. At the age of sixteen he journeyed on horseback to Cincinnati to visit his uncle, after whom he was named, Major William Stanley, and returned, in the same manner, to New York State. After his graduation he returned to Cincinnati and opened a preparatory school, his specialty being chemistry and allied sciences. A year later he became principal of a popular seminary at Augusta, Kentucky, but after three years' service resigned to accept the presidency of a female college at Tusculum, Alabama.

Mr. Merrell returned to Cincinnati in 1830, and engaged in the drug business at Chestnut Street and Western Row, (now Central Avenue), removing thence to Court and Plum Streets. From this time he remained continuously in the drug business, in which his brother was for a time his partner, but his establishment occupied successively several different locations. Thus was founded the well-known manufacturing establishment, William S. Merrell & Co., of Cincinnati, in which his son, George Merrell, and the son of George Merrell, Charles G. Merrell, are yet actively concerned. In our opinion, the efforts of William Stanley Merrell were those partaking of the highest ideals in professional pharmacy. He freely contributed to current knowledge, and to his investigations are due much that current history has thoughtlessly overlooked and not less needlessly forgotten. For example, the alkaloidal American preparations of sanguinaria and hydrastis canadensis were introduced by him; the resin of podophyllum, (discovered by Professor John King, in 1835), was made known to the profession, and thence to the world, (1847), through the efforts of Mr. Merrell, as well as were other members of the "concentration family," now practically obsolete, but which in their day served a useful purpose in the passing along of American medicine.

In closing this brief sketch, the writer takes pleasure in referring to his personal acquaintance with this estimable gentleman, whose work was so earnestly accomplished, whose ideals were professionally so exalted, and whose home life was such as to be exemplary in the eyes of all who came into touch therewith. He was a kindly, courteous, modest gentleman, friendly with whomsoever he came into contact, and affectionate toward those with whom a nearer relationship existed. Especially was he helpful toward apprentices, to whom he always extended a helping hand and gave an encouraging word. The writer of this sketch hopes that in a day to come it may be his opportunity to make a more extended biography of this kindly gentleman, whose efforts did so much to establish American pharmacy and whose personality is so lovely a recollection.



WILLIAM STANLEY MERRELL, M. D.

The Eclectic Alkaloids, Resins, Resinoids, Oleo-Resins and Concentrated Principles.

HISTORY (1839-1910.)

Condition in Therapy Preceding the Concentrations.—

The story of the "Eclectic Concentrations" can not be intelligently presented without picturing, briefly, social conditions as well as various problems concerning medicine and pharmacy at and preceding the date of their introduction. Nor can this story be fairly told, even at this late day, without many regrets, even though its various phases be handled in the most sympathetic manner. Appalling is the record left in print concerning the cruelties and the crudities at that date practiced in the name of medicine. Pathetic is the recollection of the effects of the old-time standard medicines. The story is one and the same, whether the treatment be that of a strong man attacked by an acute trouble, undergoing a course of mercurial cathartics, bleeding, and cantharides blistering; of a tortured girl in the last stages of consumption, with breast a running sore from the tartar emetic plaster, or croton oil vesicant, applied by the physician; or the fever-parched, helpless child, confined in a hot, closed room, denied a breath of fresh air, vainly pleading for a spoonful of cold water or a bit of nourishing food. Alike the course of authoritative medicine and of primitive dosing, whether in Europe or America, consisted in cruelty piled on top of torture, of catharsis to physical depletion, of cupping blood through the skin, and the copious abstraction of much-needed life blood from the veins of a patient who had been starved to exhaustion, by direction of the man who blistered and bled and purged. Then, the step of the physician made the sick man shudder. At the word *medicine* the child would cry in fear.

According to the medical theories largely prevalent in the Medieval past, diseases were to be considered not as departures from the normal, but as the effects of aggressive devils or evil spirits, to be driven out by fire and sword. The era had but recently passed when religious conceptions of supernatural influences by the powers above and below were connected with bodily ailments and afflictions. Tra-

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THE ECLECTIC ALKALOIDS.

ditions that had traveled down the centuries bound men unaware of such subjection, to conceptions concerning disease difficult now to comprehend. Astrology and the influence of the planets, and the belief in the mysterious power of the number 13, is even to-day a study of men possessed of balanced education, whilst as late as the day of Culpepper the description of each plant was prefaced with the name of the planet that was supposed to dominate its action. Far back of it all, and yet influencing it all, is seen the age of imaginative conception, of poetic imagery, that constructed gods and goddesses, such as directed the affairs of men in the day of the glory of Olympus. Natural, was it not, that out of this epoch of necromancy, superstition, and fantastic poesy, diseases should have been viewed as essences from without, sent by an omnipotent Creator or an antagonistic devil to torture the flesh of man? Nor could it be expected that an empirical art, linked with such as this, should have lost its traditions by being transplanted to America.

In the opinion of even authoritative practitioners of medicine of Colonial days, the devilish or spiteful intruders could no more be subjugated by kindness than could the Prince of Evil be subdued by friendship. But yet the man of medicine might not openly view them as devils or spirits of evil, and might resent such a reflection. But, whether the *ideas* of old prevailed or not, the *methods* of old yet lingered. Although the disgusting animal remedies once favored were neglected, the most poisonous of drugs were administered in heroic dose, or the method that was the most barbarous or disagreeable, was considered, even by conservative therapeutic authorities, including the most sympathetic physicians, at the date of the introduction of the "American Eclectic Concentrations" as the remedies most likely to serve the sufferer and to save life.

In view of these conditions, need any apology be made for the fact that the remedial agents of the first part of the last century were necessarily either nauseating and disgusting, or vicious, cruel, and in dosage too often deadly? Whosoever will study the records of the past will perceive that, whilst poisonous drugs, nauseating doses, and excruciating applications were authoritative favorites, the substances that produced the most pronounced shock were viewed with the greatest favor, even though they were directly followed by marked or even serious after-consequences, in some instances more terrible than the primary disease for which they were administered. Let any pharmacist or physician, of any school whatever, read the story of those days, as voiced in the authoritative medicaments and by the treatment of licensed physicians, as well as that given in many works

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then standard, on Practice and Materia Medica, and consider how he would feel *now*, were he to attempt to practice his art under the limitations then rigorously enforced, or what would be his course were a loved one undergoing the ordeal. To place oneself in that critical attitude is to stand where stood the *protestors* against medical authority, in the beginning of the last century.

The Uprising.—In that day in America the dogmatism of intolerance dominated those in power, whether in politics, religion, or medicine, and possibly nowhere was the battle more fiercely fought than in the last-named field. The physician who discredited the prevailing methods, and who was courageous enough to voice his protest, was likely to be ostracized by many of his brethren, as a person tinctured with quackery and linked with charlatanism. Intelligent and educated laymen, protesting against the barbarisms to which their loved ones were being subjected in the name of authoritative medicine, were, as a rule, neither given a respectful hearing, nor recognized as entitled to any consideration whatever. The first great American "Trust" was that formulated in behalf of medicine, medication, and dogmatism such as this, though, be it said, its votaries *believed* their crusade to be in the direction of the suppression of quackery advocated by men incompetent to know what was needed in medicine. Out of it all came naturally a popular uprising against the methods of "Fashionable Doctors." It was born of a wave of righteous indignation—not against individuals—but against cruelties almost universally practiced, and against fallacies that were apparent to all but those involved in their practice.

In that period also arose, of like necessity, the kindly European Homeopathic school, as an emphatic protest against all that was cruel and destructive. Even doubters of Hahnemann's theory believed that a peaceful, natural death was to be preferred to one of needless torture, and that it were better to take no medicine at all, and in a spirit of hopefulness allow nature a chance, than to follow the way of those who passed into the hands of such practitioners as the famous English Dr. Lettsom (John Coakley), concerning whose methods a critic ventured to write:

I puke, I purge, I sweats 'em,
And if they die,—I* Lettsom.

Into such times as these, and among such methods as then prevailed, came Wooster Beach, Samuel Thomson, John King, and other

* At that date the letter *I* was often substituted for *J*.

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American reformers from both within and without the only authoritative school of medicine then existing, for no recognition had as yet been given the followers of Hahnemann. Moved alike by the same cry of tortured loved ones that swept over America as it did over Europe, this conglomeration of dissenters united against a common enemy. During the first part of the nineteenth century these and such as they, educated and uneducated—many qualified by law to practice medicine, but the majority ignorant of the very principles of therapy—conducted their crusade against death-dealing medicines and the wrongs of a system of medication whose votaries so often considered the advocating of kindness to the sick as rebellion against lawful authority, and the application of humane methods to the suffering, as a crime against established science.* Throughout all America came this uprising of the people, no section being exempt. From Massachusetts to Florida, from the Atlantic to the Mississippi, the rebellion raged. It was a combination of the unorganized, unprofessional majority, assisted by an inside, rebellious, self-sacrificing, professional minority. It was a home-to-home crusade, that needed no outside witnesses, no argument from afar, because in every American household pleaded the face of a tortured loved one, or lingered the memory of one who had failed to withstand the physician's inhuman ordeal.

Thus it was that, powerless to effect reformation within the ranks, men of learning, as well as the common people, formed their "societies" in the great outside, their object being alike to serve humanity and, as they also hoped, the cause of medicine. This latter object could be attained only by discovering better, and milder, remedies than those transplanted from abroad, to be employed by somewhat similar but yet more kindly methods.

With this in view, a great section, seeking a *new materia medica*, turned naturally to the development of American remedies of botanic

* It must not be forgotten that this crusade in behalf of the people was favored by a large number of physicians and many authorities of the dominant school, for among the most aggressive of the protestors were numbered many physicians who rebelled against the barbarisms then prevalent in medicine. Not all medical authorities were content to accept the dogmatism of that date. Read the Collections of B. S. Barton, M. D. (Lloyd Library Bulletin No. 1) or Zollickoffer's *Materia Medica*, or Tully's great two-volume treatise, or even Thacher's *Dispensatory*, to perceive that the dissenters had earnest co-laborers within the medical trust. See also Lloyd Library Bulletin No. 11. Read the letters of the talented Professor Waterhouse, M. D., of Harvard University. Remember that Wooster Beach was a graduate of the Medical Department of the University of New York, and John King was an educated man of many languages, a lecturer on such scientific subjects as geology, magnetism, astronomy, and physiology in the Mechanics' Institute of New York before he took part in the American crusade for better medicines and kindlier medication. But such facts as these did not prevent such men as these from being ostracized (by authority) as quacks and charlatans.

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origin.* The preparations employed were simple and compound syrups, tinctures, acetates, juices of plants both fresh and dried, as well as powders, infusions, and decoctions of substances generally fitted for domestic preparation. As a rule the dose was large, often distressingly nauseating, and in some cases barbarous, as judged by the standards of the majority of physicians to-day, for even these "Reformers" could not, at the start, disenthral themselves from the transplanted, Medieval, European medication fallacies and the methods that encompassed and entangled them. Cullen's *Materia Medica and Practice*, the Edinburgh and London Dispensatories, the works of Quincy and of the domestic European empiricists of that date were in many American households, and these, together with traditional precepts, could not but make an impression. Even those in rebellion against dominant methods too often imagined that a medicine, *to be useful*, must be disagreeable, and that the depleting action of both the cathartic and the emetic was a necessity, in the simplest ailment. The phantom of "disease devils" still lingered, and tintured the methods even of the revolutionists. Thus it came that too many of the reform remedial substitutes, introduced to replace more barbarous remedial agents, were themselves viciously energetic, whilst the primitive surgery of those days is frightful to contemplate. Witness the treatment by his father (from which he barely escaped with his life) of that arch-rebel of them all, Samuel Thomson, in the case of a severely cut ankle.

I had the misfortune to cut my ankle very badly, which accident prevented me from doing any labor for a long time, and almost deprived me of life. The wound was a very bad one, as it split the joint and laid the bones entirely bare, so as to lose the juices of my ankle joint to such a degree as to reduce my strength very much. . . . My father, in dressing my wound, had drawn a string through between the heel-cord and bone, and another between that and the skin; so that two-thirds of the way round my ankle was hollow.—*Lloyd Library Bulletin, No. 11, pages 6 and 7.*

No intelligent patient of to-day would tolerate either Samuel Thomson's heroic courses of lobelia medication or Beach's too frequently nauseating, botanic drug mixtures, nor would such systems be unflinchingly practiced to-day by an Eclectic or Thomsonian physician of repute, any more than would the Allopathic medicine and methods, then "Regular," be followed now by the most orthodox in the ranks. But severe as were the methods of the reformers, they were soothing and

* Talented men in authoritative positions also cherished hopes concerning the possibilities of the American Flora. The two Bartons, Thacher, Zollickoffer, even Dunglison, may be cited. However, with the advent of the "Irregulars," the "Botanics," the "Indian Doctors," and such, the "Regular" profession, strangely enough, relinquished their study of the American Flora and, yet more strangely, ostracized the intelligent outsider who was specializing in this line. In this they lost a mighty opportunity.

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kindly, as contrasted with the blistering, bleeding, purging, and vomiting of those practicing the imported, Mediæval system of European medication. Largely for this reason "domestic" and "Irregular" medication became the hope of a great section of the American people.

The view presented, when from this distance the epoch is taken as a whole, is surely sufficient to enable one to comprehend much that the actors, involved in the passing along, could not perceive. A far-reaching social revolution was in progress. One party believed in *tradition* and in *authority*, and held that progress must come from *within*, and not from *without*. The other party, perceiving only the wrong of methods established, as they believed, in error and superstition, became hopeless of their correction by the men practicing those cruelties. It was a far-reaching uprising, in which a people more enlightened than formerly, more independent of authority than ever a people had been before, united in a rebellion, not against individuals, but *conditions*. It was a campaign of education, in which the side in power was organized, trained, and all-powerful; the other was heterogeneous, composed of the ignorant as well as people of education, who presumed, for love of humanity, to demand of authority that cruelty in behalf of tradition be abolished. In this mighty uprising the alkaloids, resinoids, and such came into play, but were an incident only. They failed primarily, but yet served a mighty secondary purpose, for they hastened the day when Eclectic physicians and a great part of the dominant school should abandon heroic dosage as well as depleting medication.*

Necessity for Concentrated Remedies.—The small doses of the mineral remedies, such as tartar emetic, calomel, corrosive sublimate, and the iodides, as well as the energetic organics, such as gamboge, opium, and others that the reform physicians were trying to replace with remedies more kindly in action and after-effect, were, by reason of their compactness, favorably contrasted with the large doses of such remedies as the syrups, tinctures, and crude powders, largely employed as reform substitutes. This made it essential that, if possible, concentrated representatives of the American plants be evolved. The necessity for this may be best shown by a contribution from Dr. King to the *Western Medical Reformer*, 1846, pp. 175 and 176:

I have for a long time noticed an obstacle to the progress of Medical Reform, with a very numerous portion of the community, particularly those who, when ill, desire the least medicine possible to effect a cure, which, by the way, is not a limited class. The obstacle is, the large doses and enormous quantities of medicine usually administered by those who practice with medical plants.

* Should the author presume, ever, to picture those times as he believes they should be pictured, a fund of curious extracts from past literature will prove available.

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However, there is no actual necessity for this; our medicines are as capable of being prepared in diminished quantities as any other, and when thus reduced, are much more effectual in their results. Thus, Blue Flagroot (*Iris Versicolor*) contains resin and mucilage; in the former reside its purgative and alterative properties, in the latter its diuretic. Then why administer the crude root in powder, in which these properties are combined with woody fiber and other inert substances, when a few grains of the proper constituents will answer? The same is the case with the Cohosh root (*Cimicifuga Racemosa*); its alteratives, anti-scorfulous, anti-rheumatic, emmenagogue, and other properties for which it is generally employed, reside in its resin.

For the last several years I have prepared my medicines, or, rather, those of which I make the most frequent use, in such a manner that the doses are much smaller in quantity than usual, and are fully as effectual in their results, if not more so, than are the same articles as generally administered. The object, particularly in chronic disease, is not to shock the system by repeated large quantities of active medicines, as is too much the case with practitioners, and from which cause very few *real and permanent cures* are effected in chronic cases,—but to give medicines in the least possible doses that may be found necessary to keep the system constantly under their peculiar alterative, tonic, or other action, and always in union with the other requisites of proper exercise, diet, cleanliness, etc.

This well recognized necessity of a more eligible pharmacy opened the door to the "Eclectic Concentrations."

Discovery of Resin of Podophyllum the First "Eclectic Resinoid."—In 1831 (*Am. Jour. Pharm.*, 1832, pp. 273-275) William Hodgson, Jr., made an assay of podophyllin rhizome, employing, after the methods of that date, destructive chemical reagents and heroic processes. The products obtained were all decomposition results, and thus Mr. Hodgson, through the process of too much chemistry (as now a common fault in plant examinations), failed to discover the natural energetic resinous constituent, afterward so conspicuous. (*)

In 1847 (*Am. Jour. Pharm.*, 1847, pp. 165-172) Mr. John R. Lewis again investigated the rhizome, and again applied too much chemistry, the result being a series of decomposition products, among which was one of slight cathartic action, very slight, as contrasted with the now well-known and simply prepared resin, eight grains being the cathartic dose as reported by Mr. Lewis. No argument is necessary to show that the resin, if present at all in his substance, existed in minute amount. Many writers, probably copying from each other, have continued voicing the error that the resin of podophyllum was discovered

* Mr. Hodgson has been referred to as the discoverer of the resin. We prefer to credit him with the first attempt at the assay of the root of podophyllum. The same is true of the examination made by Mr. Lewis. Neither of these investigators discovered the resin, neither of them pursued a process similar to that ever employed in its production, and neither of them claimed to have discovered the now well known cathartic.

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by Hodgson (1831), and that his product was verified by Lewis (1847). This, however, is not an excuse for the long neglect shown the real discoverer, Dr. John King, whose process of manufacture and product, as described by him (1835 and 1844), have been official in the pharmacopœias of all countries since the drug's introduction.

In 1835, Dr. John King (then a young physician of the Botanic, or "Irregular," School of Medicine), accidentally discovered, and then administered, the resin of podophyllum, which may be designated as the "resinoid fore-runner," because it constituted the first American member of that list of substances. Its discovery, and the serious consequences following the blunder of its initial administration, can best be stated in the words of Professor King, which I have, by authority, in his own handwriting:

NORTH BEND, OHIO, June 15, 1887.

PROF. JOHN URI LLOYD.

My Dear Sir,—At your urgent request, I will endeavor to give you a brief account of the discovery of the Resin of Podophyllum Root, more commonly known as "Podophyllin." My introduction to it was entirely accidental, and attended with very unpleasant circumstances.

In the fall of 1837,* I think it was, knowing nothing of this resin, an attempt was made to prepare a hydro-alcoholic extract from some forty pounds of the coarsely-powdered Podophyllum Root. A portion of alcohol having been distilled over from the root tincture, water was added to the remaining tincture, the intention being to evaporate this diluted tincture that a hydro-alcoholic extract might be had, but night coming on, the process of evaporation was postponed until the following day. On the next morning, while stirring the cold mixture, numerous pieces of a dark, somewhat porous and rather brittle body were found in the fluid. Many were the surmises as to what they were, and the query arose as to their value, if any, as a medicinal agent.

In the midst of these speculations, a young lady, about seventeen years of age, who was present, complained of feeling ill. Having no idea of the intense activity of the article just discovered, I administered about twelve or fifteen grains. Nothing further was thought of the matter until about an hour afterward, when my attention was called to her condition. She was in severe pain and distress, cramps in the stomach and extremities, pulse small and feeble, extremities cold, excessive vomiting and hypercatharsis, and apparently sinking rapidly. Her condition greatly resembled that of a person suffering from a fatal attack of Asiatic cholera. To say that I was greatly alarmed would but feebly describe my mental condition. I ran to secure the aid of two or three professional friends, but could find none of them in their offices. Then I ran back again, trembling over what might be the consequences, and thinking out a course of treatment to pursue. A princely fortune could not induce me to undergo a repetition of such condition.

By the time I reached the patient, I had become more calm. A half-saturated, aqueous solution of potash saleratus was given, in tablespoonful doses, every ten minutes, several doses being administered before the stomach would retain

*The date was 1835, see *Philosophical Journal and Transactions*, 1844, Vol. I, pp. 157-166.

ALEXANDER WILDER, M. D.

Dr. Alexander Wilder was the most erudite philosopher it has ever been our pleasure to meet in the ranks of the medical profession. He was born in Verona, New York, May 14, 1823, and died in Newark, New Jersey, September 18, 1908. Of a distinguished line of New England ancestors, he was the eighth of a family of ten. Educated in the district schools of New York State, and precocious beyond his years, he began teaching at the age of fifteen. Always a student, he early mastered Latin, Greek, rhetoric, and similar academic studies, and also became proficient in chemistry, algebra, and the sciences generally. He then began the study of medicine, but his questionings of medical conditions, and his indignation and discouragement over old school methods then prevalent, led him, in 1848, to organize a County Botanic Medical Society. Friendly was he to Thomson, although deprecating many of his methods, and especially lamenting his illiteracy. Naturally, therefore, Wilder became a Beach Eclectic. He subsequently lectured in the Syracuse Medical College, and became a member of the New York and National Eclectic Medical Associations. He became interested in politics in the days of the Abolitionists, and engaged in editorial work on the New York dailies. From 1867 to 1895 he served as secretary to the National Eclectic Medical Association.

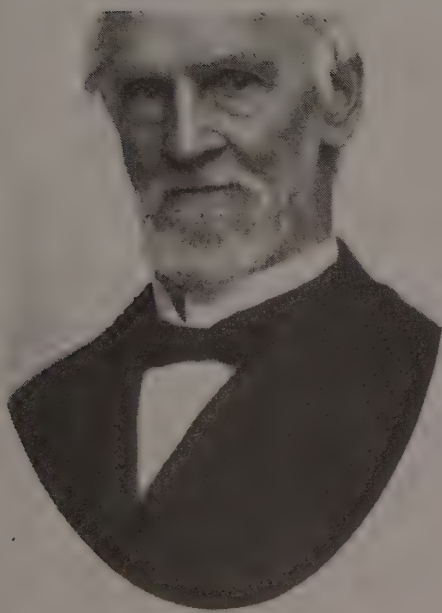
Dr. Wilder was tall and spare of person, of striking intellectual appearance, with massive head and piercing eyes. He spoke fluently, always off-hand, and from his great fund of information enjoyed a discursive opportunity well recognized by his opponents. His passion for knowledge, and his unlimited intellectual capacity, enabled him to read omnivorously, and to remember in detail the most recondite subjects, this even to the decline of very old age. His articles on "Platonic Philosophy," being a continued magazine series, were broken by the death of the author. His "History of Medicine" carries a marvelous fund of information. His articles on metaphysics, education, philosophy, and the higher sources of knowledge, as well as of current medicine are treatises that can well be cherished, but many of them are so recondite that scholars only can comprehensively read them. To give the titles only of his various writings would require pages of this volume.

This writer is so fortunate as to be possessed of a large number of personal letters from Dr. Wilder, embracing a great variety of subjects, a few only of these being referred to in this publication on the American Concentrations. These letters will be deposited with Wilder's publications in the archives of the Lloyd Library, and in future will serve a purpose in many useful directions.

ALEXANDER WILDER, A. D.

Dr. Alst. Walter Winder was a famous English physician. He was born in 1700 in the town of Winder, in the county of Wiltshire. He was educated at the University of Oxford, and became a member of the Royal Society. He was a distinguished physician, and was consulted by many of the most famous people of his time. He died in 1760, and was buried in the church of St. Andrew, in the town of Winder.

1. The first of these is the fact that the majority of the population of the United States is of European descent. This is a fact which is well known to all who are familiar with the country. It is a fact which is well known to all who are familiar with the country. It is a fact which is well known to all who are familiar with the country.



Alexander McLean

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it; subsequently, the intervals between the doses were lengthened. Sinapisms were applied to the wrists and ankles; a fomentation of bitter herbs, as hot as could be borne, was applied over the stomach and abdomen, changing it as often as required. In about an hour the extremities became warm, and a general perspiration soon followed, with diminishing suffering and a partial return to a feeling of health and strength. In about an hour or two succeeding the improvement, the sinapisms were removed, an infusion of slippery-elm bark was ordered to be drunk freely, and about eight grains of the Compound Powder of Ipecacuanha and Opium were given every three hours. The next morning she was decidedly better.

In the course of the second day her friends allowed her to have a little soup, which was followed by a serious gastro-enteritic inflammation. The fomentations and sinapisms were repeated, and the Diaphoretic Powders continued, as well as the slippery elm infusion, to which some prepared charcoal was added, not daring to prescribe a more active laxative. By perseverance in this course, the patient recovered in six or seven days, but, unfortunately, with some chronic gastro-enteritic abnormal condition, that remained for many years. From this experience I was so influenced that I feared to use any of the remainder of the resin until at least eighteen months had passed, when I ventured a repetition of its use, but in much smaller quantity, and with most excellent results.

There, my dear Professor, you have in a nutshell my discovery, which led to further investigations, resulting in the obtainment of more or less active principles from other of our medicinal plants.

In closing, permit me to add that I have found your medicinal preparations, resinoids, concentrated remedies, etc., that I have had from you since you have entered into the manufacture, to be reliable and worthy of confidence.

Yours with Respect,

JOHN KING, M. D.

The alkaloids quinine and morphine, and the energetic resin of jalap, had but recently been established in authoritative practice as the pioneers of a new class of ultimates in plant products. These, evolved abroad from drugs of foreign origin, were naturally welcomed by the dominant school, which closely affiliated with all that came from Europe, and being energetic in small doses, they served well the heroes in practice. But it remained for Dr. King to take the first step in the direction of a similar class of American ultimates. At first Dr. King's experiments promised brilliant results. The energetic resin of macrotys* was quickly followed by the resins and oleo-resins of iris, black cohosh, leptandra, and others. To his mind came then, naturally, the question as to why the major part of the American *materia medica* in use by the "Reformers" might not yield ultimates, many of them equally valuable, which in minute amounts would parallel the large doses of their respective crude drugs. Great was his enthusiasm in this work, greater was it in behalf of improved methods for curing disease by means of small doses of palatable

* Discovered by King shortly after the Resin of *Podophyllum*.

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medicines. Little, however, did he imagine, in the enthusiasm of his discoveries, that his own hand, in a day to come, was destined to deal the most crushing blow to these same products, when, by their indiscreet use and by reason of the commercial methods that were applied in their direction, they had all but wrecked the cause of Eclecticism, to which he had devoted his life work.

The original method of making the Resin of Podophyllum, as given by Dr. King in the *Medical Reformer*, was as follows:

I obtain only the resin, by extracting all that alcohol will take up, then filter the alcoholic tincture, to which I add an equal amount of water, and separate the alcohol by distillation—the resin sinks in the water.—*Western Medical Reformer*, 1846, p. 176.

This process, without materially* altering the product, was afterwards improved by evaporating the alcoholic tincture to a cream, pouring it into cold water, and collecting the precipitated resin. This resin stands to-day, as then, typical of the cathartic side of podophyllum, but it is yet not a representative of all that lies in podophyllum.† Nor is Resin of Podophyllum an isolated unity. It is a complicated educt from podophyllum, although all attempts to obtain from it a decomposition product or a fragment as comprehensively useful as the crude resin have as yet failed, and are likely to continue failures. The products made from it are but fragments of that "resin," which, in itself, paradoxical as it may seem in the light of past criticism of the word "*podophyllin*," is not a true resin.

Concerning the Name Podophyllin and the Class it Headed.—Among those who advocated the name "Resin of Podophyllum," was its discoverer, Professor John King, to whom thus belongs not only the honor of discovering this substance, but of giving it the name "Resin of Podophyllum." In its introduction he employed this term, but finally, reluctantly, accepted the popular name "*Podophyllin*," making this the prominent name in the first edition of the American Eclectic Dispensatory (1852), though he supplemented it by calling the drug "*a resin, to which the name of Podophyllin has been given.*"

* This word is used necessarily. The resin made by King's original process is cleaner, and more energetic, than the resin made by the official process. This results mainly from the *division* of the extract (tincture) at the time of precipitation by the water. This permits the resin to fall in a state of very fine division, each particle being well washed of extractive matter by the water.

† *Scudder's Alternative*, yet a favorite remedy with many physicians, was designed to exclude the cathartic resin and to utilize the tonic constituents of this drug. See *Am. Disp.*, 1866, and subsequent editions. Within the last year Dr. N. M. Dewees, of Cambridge, Ohio, has also introduced an Elixir of Podophyllum, long in use in his practice, that is very pleasant, very effective, and yet, in its acknowledged excellence, is dominated by the other podophyllum structures rather than by the drastic resin.

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Although the name *podophyllin* was attacked by Dr. Squibb and Professor Procter (see *Am. Jour. Pharm.*, 1868, p. 1), the late Mr. William S. Merrell, of Cincinnati, who first (1847) prepared the crude, resin-like precipitate for commerce, and who first used the term *podophyllin*, strenuously and ably defended that name. In reply to critics, he called attention (*Eclectic Medical Journal*, July, 1850, p. 299) to the fact that the names for *jalapin* (then established in "Regular" literature), and several other like bodies which were not definite chemical compounds, were devised after that plan, and he finally informed his antagonists, who became personal in criticism, that the name *podophyllin* had not originated with him, but that he had, in reality, accepted it at the suggestion (to use his words) of "Professor Wood, the author of the United States Dispensatory, who is no mean authority."* Mr. Merrell then continued his argument by saying:

The names of the resinous principles, or resinoids, should be made to terminate in *in*, after the analogy of the generic substance *resin* or *rosin*, and accordingly we should write *Podophyllin*, *Macrotin*, *Jalapin*, etc.—*Eclectic Medical Journal*, 1850.

This method of nomenclature was accepted by Hill (Cincinnati) and Keith (New York), as well as by other makers of Eclectic remedies of that period, who placed a limited line of "resinoids" upon the market. They accepted, without question, the nomenclature that Mr. Merrell had suggested, although, in Eclectic literature, some very acrimonious discussions appeared concerning the drugs to which the names were applied. As before remarked, when the precipitate, more or less resinous, obtained from *podophyllum peltatum*, finally demanded recognition in the United States Pharmacopœia, it came before the revisers of that work as an Eclectic drug, but under a name formulated by the editors of the United States Dispensatory, a fact overlooked by some persons antagonistic to Eclecticism, who opposed that name, thinking it an Eclectic term.

The substance under consideration was, as before stated, the first member in the list of Eclectic "resinoids," alkaloids, and concentrations to attain popularity. Through the influence of Professors King, Hill, Morrow, and other contributors to Eclectic literature, as well as by reports of practitioners who used it, "*podophyllin*" quickly assumed a position and importance seldom attained within so short a period by vegetable remedies. Its unquestioned efficacy as a cholagogue cathartic—in that day of cathartic supremacy established it in the practice of others as well as the Eclectic profession. Appearing in the heat of a celebrated controversy over the abuse of the mercurial prepara-

* See p. 27.

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tions then so extensively employed in Regular practice, it was hailed by Eclectics as a vegetable substitute for the mercurials, and was called by them the "Eclectic Calomel."*

Before its character was understood by the leaders in the Regular school of medicine, it became, under the name *podophyllin*, perhaps the most prominent of Eclectic drugs. Such conspicuity could not exist, however, with reference to a drug used so extensively in Eclecticism, without recurring introductions to members of the Regular school, and, in consequence, long before it was authoritatively recognized by any of their book-makers, it came into general repute with numbers of their general practitioners. Thus commercial "*Phodophyllin*" became a valued drug in general Regular practice, years before it received recognition either in the United States Pharmacopœia or Dispensatory. Hence it was that, when at last it was deemed advisable to give a position in the Pharmacopœia to this drug which had long been known to be of unquestioned value, it was found that Mr. Merrell's name, *Phodophyllin*, had become commercially and professionally established, at home and abroad.

Probably from ignorance of its record in Eclecticism, at least without recognition of that fact, the controversy over the name was now resuscitated, and was acrimoniously continued, when the drug knocked at the door of the U. S. P. As early, however, as 1851 (see *Am. Jour. Pharm.*, 1868, p. 1), the late Edward Parrish had recognized the advent of these products of Eclectic pharmacy (resinoids or concentrations), and deprecated their names. He said,

As well might the Ellis' Calisaya Extract be called *quinia*, as the impure resinoid substance precipitated from a tincture of May-apple, by the above process, *podophyllin*.

This argument, however, failed to impress either the makers or the consumers of "*podophyllin*," and even when the preparation became official in the United States Pharmacopœia (1860) as "*Resina Podophylli*," the title of the commercial drug remained unchanged. This fact was commented upon by Dr. Squibb in 1868, who considered it "unfortunate that those whose aim should be to give accuracy and precision to matters connected with medical science and art, should so commonly refuse to this substance its proper and correct name, and adhere to the inaccurate and otherwise objectionable name of '*Podophyllin*.'" He severely criticised the names affixed to the class (the *Resinoids* or *Concentrations*), of which *podophyllin* was a member, stating that the termination *in* was

* These discussions, being confined to Eclectic publications, are unknown to most persons of the "Regular" school, for few have that literature at hand.

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applied to this and other substances by the Eclectics, through ignorance of its true nature. It is a resin proper,

he continued,

and there seems no good reason for miscalling it by an incorrect name which has attained an equivocal popularity, and the common pronunciation of which is so vulgar and inelegant.*

Notwithstanding this criticism, supported indirectly by the writings of other talented and enthusiastic leaders in Regular medicine and in pharmacy, who confined themselves to the official appellation and threw their influence in the direction of the name that was asserted as being the only scientific and proper one, little impression seems to have been made on either those who manufactured or who consumed the drug. The United States Pharmacopœia, in each subsequent revision, has made the name "Resina Podophylli" (first given to it by Professor King), official; the influence of the majority of instructors has been continuously added thereto. But to this day, in commerce, when the drug is specified, and usually when it is prescribed by physicians, the appellation is *Podophyllin*.

Had the advice of Dr. King been taken, the *definite* resins would alone have been called *resins*;† the *oleo-resins* would have been called *oleo-resins*, with names terminative in *in*; and the alkaloids would have been called *alkaloids* (names terminating with the syllable "*ine*," or "*ia*")‡ whilst dried extracts would have been called *extracts, dried*. But the care of Dr. King and his systematic co-laborers was not effectual in controlling either the nomenclature or the composition of the many incongruous substances that, in rapid succession, between 1847 and 1860, were, by manufacturers of plant preparations, thrown on the American drug market under the titles "Alkaloids" and "Resinoids."

Enlarged Use of the Termination *in*.—Closely following the commercial introduction of the "Resin of Podophyllum," under the condensed name "Podophyllin," and eleven years after King had estab-

*It has since been shown that podophyllin is not a resin, nor yet a simple substance. It carries more than one body, and is partly soluble in water.

†Substances thrown from alcoholic percolates by water. They were seldom, if ever, true resins, but no better nomenclature is even now possible.

‡The tendency at that date, in both commerce and the profession, was toward single names, usually terminating with "*in*" or "*ia*," as applied to the energetic compounds obtained from drugs. The termination *ia* was applied to organic bases of alkaloids, of which *Morphia* and *Quinia* may be cited as examples. King, as was true of others at that date, thus used *ia* as an alkaloidal termination.

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lished its energetic cathartic nature, came, as already stated, the introduction of many other substances, some of similar resinous natures, others markedly different. Among the most typical of the resins, and once conspicuous by reason of the hope that it might carry the cathartic and other qualities of the crude drug from which it was evolved, was that derived from *Leptandra virginica*.* This, as finally established and used by King, was a dried hydro-alcoholic extract, and by manufacturers was called *Leptandrin*. Concerning it, in reply to a question, Dr. King (1880) wrote as follows:

Birmingham, Aug. 5th, 1880.

Prof. John G. Lloyd,

Dear Sir:

In reply to your request desiring me to give you a statement concerning the origin of the article designated by the term *Leptandrin*, I will observe that in the year 1880, I first prepared an extract from the *Leptandra virginica* root, by forming an alcoholic tincture, and an aqueous infusion subsequently; these I evaporated separately to dryness, pulverized them and mixed them together. In the *Western Medical Reformer*, of April, 1886, published at Cincinnati, pages 170 to 178, will be found a communication relative to this subject, in which paper I also alluded to the resins of Blue Hag, Black Choke, Podophyllon, etc., as well as to preparations of several other medicinal agents. Previous to this communication these resins and preparations were unknown to pharmacists and physicians; and it was a year or two subsequently, before any pharmacist ventured to prepare them for the medical profession. But, I would remark here, that in 1884, in another journal, I had called attention to the resins above referred to, which, however, attracted but little notice. I know of no earlier publication concerning these remedies, and, as, in such matters, date gives priority, should such publication be found, my claims will become valueless. As to the ~~name~~ nomenclature given to these resins and dried extracts, I did not originate with me.

Yours Truly,
John G. Lloyd

This facsimile is presented to show the copperplate beauty of Dr. King's handwriting.

* Dr. King, its discoverer, subsequently demonstrated that this resin was practically inert. This, to him, was a deep disappointment.

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August 6, 1880.

Prof. John Uri Lloyd,

Dear Sir,—In reply to your request, desiring me to give you a statement concerning the origin of the article designated by the term *Leptandrin*, I will observe that in the year 1840 I first prepared an extract from the *Leptandra virginica* root, by forming an alcoholic tincture, and an aqueous infusion subsequently; these I evaporated separately to dryness, pulverized them and mixed them together. In the *Western Medical Reformer* of April, 1846, published at Cincinnati, pages 175 to 178, will be found a communication relative to the subject, in which paper I also called attention to the resins of Blue Flag, Black Cohosh, Podophyllum, etc., as well as to preparations of several medicinal agents. Previous to this communication these resins and preparations were unknown to pharmacists and physicians; and it was a year or so subsequently before any pharmacist ventured to prepare them for the medical profession. But I would remark here, that in 1844, in another journal, I had called attention to the resins above referred to, which, however, attracted but little notice. I know of no earlier publication concerning these remedies, but as in such matters dates give priority, should such publications be found, my claims will become valueless. As to the nomenclature given to these resins and dried extracts, it did not originate with me.

Yours truly,

John King, M. D.

Let us emphasize the manner in which Dr. King disclaims responsibility for the word *leptandrin* by repeating from his letter the sentence concerning the origin of the "*article designated by the term Leptandrin!*"

Note, also, his dignified criticism of the terminology employed, in the final sentence of the same communication:

As to the nomenclature given to these resins and dried extracts, *it did not originate with me.*

At that date Dr. Alexander Wilder was in the zenith of his mentality, and was deeply concerned in the reform movement in medicine. Like Dr. King, he felt the odium of the alkaloidal-resinoidal octopus that had so unexpectedly wrapped its tentacles about Eclecticism, and he too protested against the imposition. (See page 19.) From a letter to us, November 6, 1905, we extract as follows:

I used to plead against the (illogical) naming of the resins "*podophyllin*," "*macrotin*," "*leptandrin*." I was willing to use these terms as adjectives, but what little chemistry I possessed convinced me that they were neither principles, proximate principles, nor even concentrations.

Notwithstanding these facts, and notwithstanding the fact that an *in* compound would probably be confused with the termination *ine*, already established in alkaloidal chemistry (as in *morphine* and *quinine*), the cumbersome, technical terms of precise science gave way to commercial expediency (as is yet necessarily the case in similar

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problems), and the terse and attractive names* that appealed to both the professions and the trade, became firmly established.† Yet, although Professor John King came finally to tolerate the innovation, whenever a substance was, to his knowledge, simply a dried solid extract, whether aqueous, alcoholic, or hydro-alcoholic, he insisted on the proper designation. For example, note how, in the following articles, over half a century ago, he differentiated between the resinous substances podophyllin (resin), iridin (oleo-resin), and the dried, hydro-alcoholic extract of xanthoxylum fraxineum:

I know of no better sialagogue than a mixture composed of equal parts of Podophyllin, Iridin, and the dried hydro-alcoholic extract of Xanthoxylum Fraxineum; of which half-grain doses must be given and repeated every two or three hours. I recommend this as an officinal Eclectic formula for all cases where salivation is deemed necessary; also as an unrivaled alternative in many forms of chronic disease.—*Eclectic Medical Journal*, February, 1849.

Rapid now were the movements of the "resinoid, alkaloid" makers. Within a brief period, between 1850 and 1855, several manufacturers of medicine were rivaling each other in their efforts to establish both priority and superiority for their special makes of the respective resinoids, concentrations, and alkaloids.

Nor were the united efforts of King and others earnestly concerned in Eclectic therapy and reform medicine capable of preventing, or for a time, even, modifying the marvelous and too often unfounded claims made in behalf of the therapeutic virtues of the so-called active principles. A resinoid craze arose, similar to other professional distempers and fanaticisms, such as the American elixir craze of the early seventies, and similar fads that from time to time have risen to plague over-zealous enthusiasts.‡

* Formed by affixing the termination *in* to the (abbreviated) names of the plants; examples: 'macrotis, macrotin; leptandra, leptandrin; etc.

† Scientific terms are often too ponderous for either professional men or men in commerce to use in the affairs of life. Concentration, compactness, easy movement is essential to success of a title. Even the professional term *Ipecacuhana* became of necessity corrupted into *Ipecac*.

‡ Let it not be understood that we would presume to condemn the efforts made by experienced, self-sacrificing, earnest men, who, with the object of bettering conditions, involve themselves in what will surely be referred to, in a future day, as heinous fallacies or grotesque fantasies. Their efforts show that they too well appreciate the fact that conditions about them need bettering. Nor would it be just to ourselves to permit any one to presume that we believe such fallacies are necessarily fruitless. Probably each comet that streaks the sky leaves a bit of dust that somewhere, some time, becomes useful. The injection of sulphuretted hydrogen, per rectum, as a cure for consumption, led men to question the infallibility of some authorities, who spoke "by authority," made so by position. The cruel vivisection methods of present investigation are leading men involved in other long-established barbarisms to abandon their systems of medication. Dr. Osler, as a heretic, had cause for his heresy, even though he outclasses some "Irregulars" in his questionings of old-time medicines and methods once considered the only scientifically "Regular." Even the blue-glass theorist led many physicians to think of sunlight as a remedial agent. The Rochester (New York)

WILLIAM TULLY, M. D.

William Tully, M. D., was born in Saybrook, Conn., and died in Springfield, Mass., in February, 1859. He graduated from Yale in 1806, studied medicine with Drs. M. F. Cogswell and Eli Ives, attended two courses of medical lectures at Hanover, and in 1819 received the honorary degree of Doctor of Medicine from the Medical Department of Yale. In 1811 he began practicing at Enfield, thence removing to Middletown, becoming, in 1824, Professor of Theory and Practice in the Vermont Academy of Medicine, where he was elected president of the college. In 1825, together with Professor Alden March, an eminent surgeon, he removed to Albany, N. Y., where he practiced medicine until 1829, when he was appointed to the chair of Theory and Practice of the Medical Department of Yale University. Here he lectured for twelve years, including in his courses the subject of Botany. His lectures were inspiring to his students, with whom he was a great favorite. He was actively engaged to the time of his death in both practice and teaching.

In 1823, in connection with Dr. Thomas Miner, Dr. Tully issued a volume of essays on fevers and other medical subjects, comprising 484 pages. He also contributed many papers to medical and other journals, and assisted Drs. Webster and Goodrich in compiling Webster's Dictionary of the English Language, editions 1840 and 1847. At the time of his death he was engaged in writing a work on "Materia Medica, Pharmacology, and Therapeutics," Volume I, 1,534 pages, in twenty-four parts, appearing between November, 1857, and February, 1858.

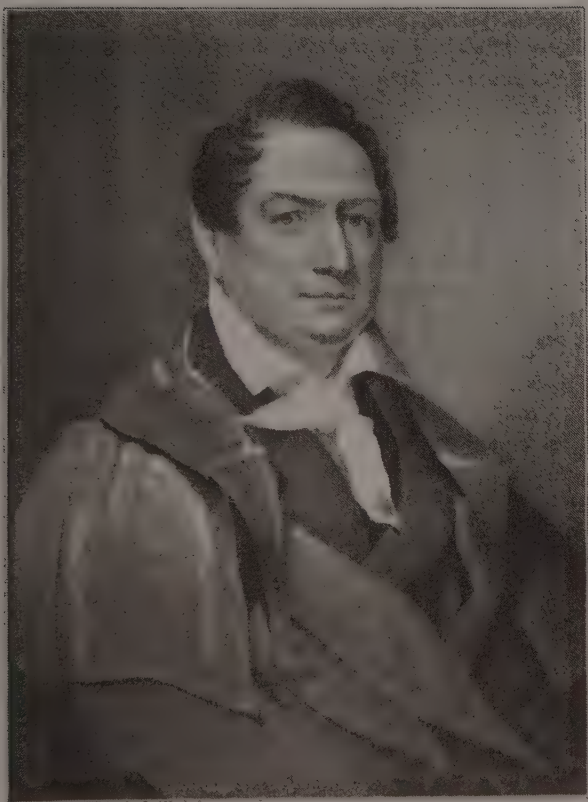
Professor Tully was a liberal teacher, willing to learn from others, and ready to impart his knowledge to others. Thus he became a correspondent of Professor John King, and thus, by reason of the bond of intellectual friendship, the two men, respecting each other's ideals, worked together for the benefit of humanity and the profession of medicine. It gives us much pleasure to pay this late tribute to the memory of this talented and conspicuous teacher and author, who has been so strangely neglected by the historians of the Regular school of medicine, in whose histories and biographies of American physicians we have as yet failed to find any mention, even of the name, of Professor William Tully, M. D.

Portrait of William Tully, M. D., loaned by Yale University, through the courtesy of J. C. Schwab, Librarian, and Prof. Herbert B. Smith, Dean of the Medical School.

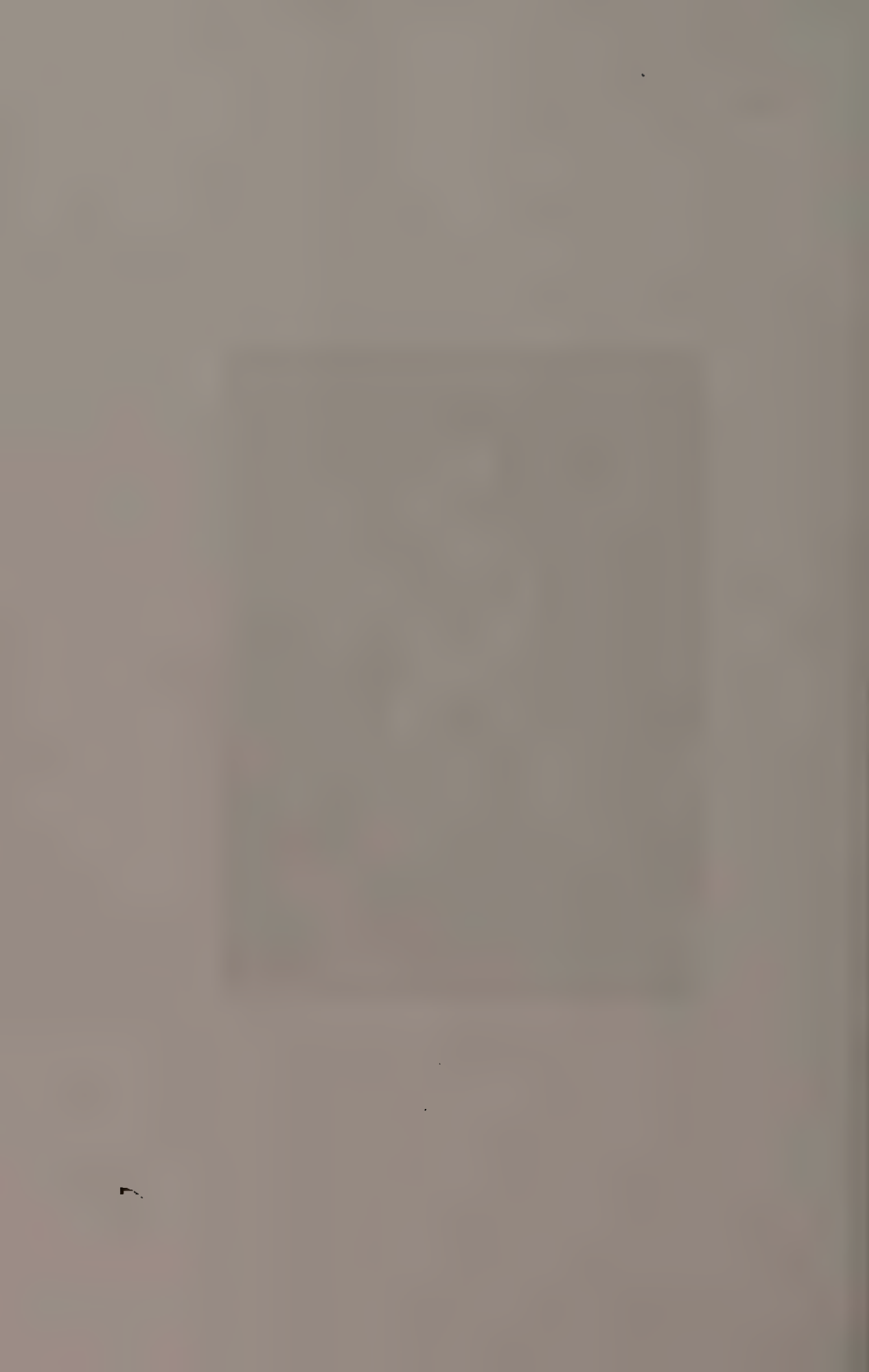
WILLIAM TULLY, M.D.

William Tully, M.D., was born in Hartford, Conn., in 1847. He received his medical education at the University of Connecticut, where he graduated in 1871. He then spent a year in the hospital of the University of Michigan, and in 1872 he returned to his native state to practice medicine. He was for many years a member of the Connecticut Medical Society, and he was also a member of the American Medical Association. He was a devoted teacher and a successful practitioner. He died in 1910.

He was a member of the Connecticut Medical Society, and he was also a member of the American Medical Association. He was a devoted teacher and a successful practitioner. He died in 1910.



WILLIAM TULLY, M. D.



THE ECLÈCTIC ALKALOIDS.

Having now briefly given a history of the discovery of the concentrations, and the application of the term *in* to the resin of podophyllum and similar substances, let us next consider the—

Introduction of the Commercial "Concentrated" Principles or Resinoids.—Professor King was a personal acquaintance, a correspondent, and an admirer of the talented Professor Tully, of Yale University. Immediately after discovering the resin of podophyllum, he communicated the process, together with his experience as regards its violent energy, to that exceptional authority, who, although an Allopathic physician, was both very liberal and very enthusiastic in his views concerning the ideals and efforts of the independent American reform investigators. Professor Tully called Dr. King's attention to the plant *macrotys*,* and in 1835 King obtained its resin (*macrotin* or *cimicifugin*), after his previous method of making resin of podophyllum. Soon thereafter, 1840, he made and recorded the production of the resinous principles of *iris versicolor*, *aletris*, and *leptandra*.† The last substance, although more of a resin than is resin of podophyllum, did not carry the therapeutic qualities of the drug, proving to be practically inert. For this reason it was subsequently replaced by the dried extract of *leptandra*, under the name *leptandrin*. The same was also true of the resin of *hydrastis*, a plant that contains an abundance of resin and was one of Dr. King's remedial favorites, but which failed to give an active, resinous product. These exceptions to the rule which had produced the energetic resins of *jalap*, *podophyllum*, and *macrotys* were exceedingly disappointing to the men who hoped to evolve a line of similar active principles from all plants. However, the various resinous, alkaloidal and extractive substances under the termination *in*, followed successively as commercial products, and within a few years Dr. King, as a means of intro-

State Hospital is now (1909) instituting a "sun room," described by the *Rochester Democrat and Chronicle* as follows: "Extensive improvements are under way at the State Hospital which will add to this very large State institution for the insane a number of conveniences. A sun room is under construction adjoining the building in which some of the special cases are confined. At present these patients are confined within brick buildings not of the modern type. The new building will be fifty-three feet in length, twenty feet in width, and two stories in height. The roof will be of slate, but the sides will be of glass, allowing the rays of the sun to enter from the east and south. Galleries will be constructed, so that the patients will be able to get sun baths without being given undue liberty."—*Dem. and Chron.*, July 22, 1909.

* Eclectic physicians have always used the term *macrotys* in preference to *cimicifuga*. (See Lloyd Brothers' Drug Treatise No. XIII, p. 3.) The name *macrotys* under Eaton's authority, and Rafinesque's precedent, had become established in early American botany. Eclectics do not believe in changing the name of a remedy every time a botanist alters the name of a plant for some reason, personal, fanciful, or discursively proper or improper. Hence in Eclectic literature, the name *macrotys* still has precedence.

† See Dr. King's letter, p. 25.

THE ECLECTIC ALKALOIDS.

ductory classification, very reluctantly referred to them under the blanket title "Concentrated Principles." This is shown, 1849, by the closing sentence in his article, titled "Important Remedies," as follows:

As the action of the *concentrated principles* of our remedies is now undergoing investigation, I would refer to the communication named in the commencement of this article* for a list of preparations worthy of immediate notice, and will mention several which I have made and used, as particularly deserving the confidence of physicians. Dried hydro-alcoholic extracts of *Baptisia tinctoria*, *Euphorbia*, *Ipecac*, *Hydrastis Canadensis*, *Phytolacca decandra*, *Cornus sericea*, *Rumex crispus*, and *Apocynum Cannabinum*.—*Eclectic Medical Journal*, 1849, p. 63.

Be it observed that these concentrated principles were by Dr. King called *dried hydro-alcoholic extracts*, and also that the list does not include any drug dominated by a poisonous or active resin or oleo-resin. Notwithstanding criticisms and unfounded statements to the contrary, it is seen that, at that early date, the very opening of the American Materia Medica, Dr. King had instituted an intelligent classification of these substances, (see page 13), that should not have been neglected.

Under his classification, no blanket title would have been necessary. Had it been adopted, the so-called alkaloids, concentrations, or resinoids, that plagued Eclectic pharmacy in succeeding years, would have been unknown.

But, as shown in the historical section of this Bulletin, the care of Dr. King was not effectual in controlling either the nomenclature or the composition of the many incongruous substances that, in rapid succession, were thrown upon the American drug market under the names *alkaloid* and *resinoid*. Nor was it possible to resist the marvelous claims made for their therapeutical virtues. Within a brief period several manufacturers of medicines were rivaling each other in their efforts to establish for their respective make of the "Resinoids," "Concentrations," and "Alkaloids" both priority and superiority.

In this turmoil Dr. King and other Eclectics were most unfortunately and unhappily embroiled, and that, too, not without reason, from the fact that Dr. King had introduced the resin of podophyllum and others similar. This, added to the fact that these popular "Eclectic Remedies" were making inroads on medicines from abroad,† led professional antagonists and those connected

* *Eclectic Medical Journal*, 1846, April, p. 169.

† This commercial phase of the problem must not be overlooked. Europe supplied jalap and resin of jalap (coming from Mexico to London, thence to America); calomel at that time was imported from England, as were Spanish flies through London. These and such as these were being rapidly displaced by the new remedies.

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with foreign drug affairs, together with men who did not care for fact or were not inclined to investigate, as well as those who believed that independent investigation should at all costs be prevented, to attempt to saddle upon King the whole heterogeneous mass of conglomerates grouped under the name "Concentrations," and thus to discredit him and suppress the "Reformers." As a result of this, men who did not read carefully or who were unacquainted with either King or his ideals, or were prejudiced beyond reason, were led to blame him for what others, over whom he had no control, and whose methods were directly opposed to his, were doing. A bitter ending it was to the hopeful dream of that self-sacrificing philanthropist and scholar!

Concerning this phase of the subject, Dr. Alexander Wilder wrote us as follows:

So far as the exploiting of "Concentrated Remedies" and the whole array of these peculiar extracts is concerned, the endeavor to throw a responsibility on Dr. John King, beyond the three preparations known as Podophyllin, Macrotin, or Irisin, is without warrant. Dr. King was too careful to go faster in such matters than he felt that his footing would be safe. He was simply an expositor of the few substances that he had discovered, and had neither disposition nor interest in foisting upon the confidence of his medical brethren, or the public generally, a large number of the "new remedies" that he had neither discovered nor tested.

Can the dilemma of Dr. King be more forcibly emphasized than by quoting his own words of protest against the imposition of the so-called Eclectic alkaloids, resinoids, and concentrations, written in the very height of the enthusiasm that had arisen in the Eclectic school in their behalf?

Concentrated medicines: I have been accused of unjustly opposing these remedies, and discrediting them to the profession. I confess to having opposed the principle that all the agents of our indigenous materia medica would yield their virtues in the form of a powder, and I still continue in the same belief. —Dr. John King, editorial in the *Eclectic Medical Journal*, Vol. XXI, p. 96, 1862.

To this may aptly be added the far-reaching paragraphs of Dr. King in the Preface (pages 9 and 11) to the *American Dispensatory*, 1870:

The only point to be regretted is that many worthless so-called "concentrated preparations" have been presented to the profession, purporting to be those of American Medical Reformers, and which have been gotten up by either ignorant or unprincipled parties, for the sole purpose of realizing wealth. The failure of these worthless articles to effect beneficial results in the treatment of disease might lead many to reject even those of value; which consideration alone has elicited the above remarks. . . . It is well known that many of these preparations, from which the manufacturers have, in some in-

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stances, already realized immense wealth, are valueless, or nearly so, while others again are downright impositions; for what chemist can believe in the reduction, for instance, of an active medicinal oil to the condition of a powder, without having its medical power more or less destroyed by the process for such reduction, even were the operation a mere trituration of the oil with some absorbent powder?

COMMERCIAL HISTORY OF CONCENTRATED REMEDIES.

Dr. Isaac Jacobs, of Bangor, Maine, was, so far as I can determine, the first to attempt the obtaining of vegetable remedies in concentrated form, becoming widely celebrated for his peculiar methods as early as 1835, the year King discovered resin of podophyllum. He expended many hundred dollars in perfecting processes, and in making machinery for expressing and concentrating juices from plants. He contended that many medicinal plants lose their remedial virtue by the application of artificial heat, whereas sun evaporation afforded a superior product. He accepted that his success as a practitioner was due largely to these concentrated medicines.—*Condensed from a letter of Dr. Alex. Wilder, Dec. 1, 1902.*

These "Concentrations" of Dr. Jacobs, which antedated the commercial lists by sixteen years, were not the remedies sold in powdered form after Dr. King's discovery of the resin podophyllum, but compressed *sun-dried extracts*, or pillular extracts. They, however, directly anticipated the trade alkaloids and concentrations, of which the true resins were legitimate forerunners.

In 1847, (twelve years after its discovery by King), Mr. Wm. S. Merrell (see pages 24-30) made the first resin of podophyllum for commerce, and to him is due the credit of its first preparation on a manufacturing scale and its commercial introduction. This is irrevocably established, not alone from the fact that Dr. King gave to us, personally, the detailed circumstances,* but because a record was made of the incident by King, in the first edition (1852), of the *American Dispensatory*, as follows:

The credit of first preparing podophyllin, and other concentrated preparations, for the use of the profession generally, it being part of his vocation, belongs to Mr. Wm. S. Merrell, druggist and chemist, of Cincinnati, who first manufactured it, in June, 1847; since which time it has become an indispensable and highly important *Eclectic* remedy; and is likewise used by Allopaths and Homœopaths, and by the former, in all instances where they have employed it, it is preferable to mercurials.—Dr. King, in *Eclectic Dispensatory*, 1852, p. 314.

The first concentrations introduced to commerce were the resins

*Dr. King related to me the incident as follows: "I went into the pharmacy of Wm. S. Merrell one day after lecturing to my class, and Mr. Merrell brought to me a small amount of the powdered resin of podophyllum, saying, 'I have made this according to the process you gave me; how does it compare with that made by you?' 'Exactly like that I made,' was my reply. Mr. Merrell then gave samples to physicians, and introduced it to the trade."

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of podophyllum, macrotys, and leptandra, and for some time these comprised the entire list.

Four years after Mr. Merrell (1847) introduced the resin of podophyllum to commerce, and after the typical "resinoids" had become well known to Western Eclectics, Dr. Wm. Elmer, of Auburn, New York (1851), went to Syracuse, N. Y., and formed a partnership with Dr. S. H. Potter, who had just established the "Syracuse Medical College." There he associated with himself Dr. John T. Goodin, of Utica, New York, Dr. Dwight Russell, Dr. Sears Crosby, and Dr. Alexander Wilder, the project being, in Dr. Wilder's words (private letter):

"To open the American College of Pharmacy, which, however, was merely a pretext for an alkaloid, resinoid, concentration, business scheme."

Wilder further states:

This "College of Pharmacy" went on some months manufacturing podophyllin, macrotin, and leptandrin until midsummer, when it collapsed.

It began to manufacture in April, 1851, and sold out in the following summer to Hosea Winchester, 108 John Street, who moved to New York and continued the business as a retail drug store. Dr. Elmer, it seems, though the founder, took no active part in the college. On some "unsatisfactory pretext," (Wilder) he withdrew in early spring, and removed to New York, where, in Bleecker Street, he formed a partnership with Mr. B. Keith, of New Hampshire, under the title Keith and Elmer, the object being to engage in the manufacture of Concentrated Remedies,* which, according to Wilder, were simply *dried extracts*. Wilder writes:

The products appear to have been made in one uniform manner, by tincturing the drug with alcohol, and drying the product.†

The new firm now employed as chemist a man named *Grover Coe*,‡ who continued with the firm of B. Keith after Elmer withdrew. About the close of the Civil War the firm moved to Liberty Street, but in the meantime, Grover Coe, like Dr. Elmer, had vanished, leaving no record other than his book.§

Other medicine manufacturers now perceived in "Alkaloids and

* This data is from a personal letter from Dr. Wilder. See biographical sketch. This firm, (Keith and Elmer), was the Eastern pioneer in the manufacture and distribution of the class of substances listed as "Concentrated Remedies." "The business is now (1909) conducted by a son of B. Keith, 31 Park Row, New York City." In this connection we will add, this Keith family is one of the old New England founders, active in early colonial days.

† Such extracts are often oleo-resinous, and will not dry without the aid of an absorbing powder. This explains the presence of starch and other products found in them by Prof. Wayne. (See p. 35.)

‡ Dr. Wilder tells us he was not a physician, although he used the title M. D., and was referred to in print as Dr. Grover Coe.

§ Biographical note, opposite portrait of Grover Coe.

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Concentrations" a new field. Dr. Hosea Winchester, of Missouri, opened business on John Street, having taken in Dr. Elmer, of Syracuse (see page 21). In the West, several parties began successively the manufacture of the "Resinoids," "Alkaloids," and "Concentrations," the foundation for all these substances being the resins and oleo-resins discovered by Dr. King, who published his processes, but, being a physician and scientist, and having no connection with any business concern (see pp. 8-10), never made any products for commerce.

Soon active competition uprose. Keith became prominent as the Eastern "Alkaloid, Resinoid, Concentration" manufacturer, and was attacked by the Western interests. His friends, in turn, were not less aggressive in his behalf. Thus came many lines of products from many sources, all being classed either as alkaloids, resins, resinoids, oleo-resins, or as concentrations. Heralded were they as very concentrated remedies, capable, in small amount, of producing marvelous therapeutic results. But, in substance, though bearing the same names, they were as different from one another as were the different makers' labels. Their common origin, based upon Dr. King's discoveries, (see pp. 7-15), naturally drew Eclectics into the controversy, a condition of affairs strengthened by the fact that Grover Coe was Secretary (1857) of the National Eclectic Medical Association, and that Dr. R. S. Newton, (at the start one of Keith's adherents), as well as others prominent in their advocacy of Keith, were aggressive Eclectics. However, according to Dr. Wilder, Keith soon withdrew from all Eclectic and Thomsonian affiliations and complications, his remedies being used mostly by the dominant school, which school after a time (and the same is yet true), consumed most of the products. This reversal of conditions was owing, largely, to the crusade of King, Scudder, and others against heroic drugs, poisonous dosage, and especially the alkaloidal medication theories, which led Eclectics to abandon the use of most items of the entire class. Notwithstanding these facts, the "odium" of it all, and the imposition of it all, still clung to Eclecticism.

MANUFACTURERS OF THAT DATE.

The principal manufacturing firms of these substances, between 1851 and 1859, are recorded as follows:*

* Some of these firms prepared concentrations, such as the true resins, etc., for a greater or less period before the list was advertised as a class. Others did not publish a list until some time following the use of the typical resins. For example, although Mr. Wm. S. Merrell introduced the first specimens to the trade, Keith was perhaps the first to make them a commercial feature. We include quotations from the text of some of the prices current.

THE ECLECTIC ALKALOIDS.

F. D. Hill & Co., Cincinnati, 1852. "From a continued series of experiments, we have no hesitancy in saying that by the improvements made in the mode of preparing the following list of *Concentrated Medicines*, we can offer these preparations to the public, containing all the medical virtues possible to be obtained from the different native substances, and of a finer quality than ever before manufactured."

Lists Podophyllin, Leptandrin, Macrotin, Myricin, Sanguinarin, Hydrastin. "This article, (Hydrastin), introduced by us (in 1851), is one of the finest extant among Botanic Medicines. In fact, it is the *QUININE OF AMERICA*." To this list was added, in 1856, Caulophyllin, Cornin, Geranin, and Prunin.

American Chemical Institute, B. Keith & Co., 1854. "*The object of this Institute is, to prepare the active principles of indigenous and foreign medical plants.*" "One great and principal objection to the use of many vegetable remedies has been that it required such large doses of the article in a crude state, to accomplish the desired effect, that the bulk alone would defeat the entire purpose for which the remedy was administered." Then follows a list of thirty-one "*Concentrations*," the special claim being that they were *in the form of powders*.

Union Drug Store, Vine and Pearl Sts., (W. S. Merrell & Co.), Cincinnati, 1854. "The Resinoid and other Active Principles of our native plants are of a quality unsurpassed, if not unequalled, by others who have engaged in their manufacture."

Wm. H. Baker & Co., St. Louis, 1854. "*New Concentrated Medicines.*" "Their uses, doses, etc., together with a manual on Resinoids, will be mailed free to those who desire it."

T. C. Thorpe,* Cincinnati, (Court and Plum Streets), 1854. "Manufactures and keeps constantly on hand all the Concentrated Agents peculiar to the Eclectic Practice."

Dr. I. Wilson, Cincinnati, 1854, "dealer in Essential Oils, Gums, Extracts, and CONCENTRATED PREPARATIONS." (No list published.)

Tilden & Co., New York, 1856. "Concentrated Preparations, Resinoids, or Oleo-Resins. We add to our own list some of the most important articles of this class of preparations, and shall extend the number as fast as we are able to do so, to embrace all that may be deemed of importance to the practitioners."

Lists Asclepin, Cimicifugin, or Macrotin, Cypripedin, Geranin, Hydrastin, Leptandrin, Podophyllin, Sanguinarin, Senecin, Scutellarin, Stillingin, Xanthox-
yllin, [In 1859, this list had increased to forty-eight items.—L.]

Geo. M. Dixon, Cincinnati, 1856. "We beg leave to call the special attention of the medical profession to our extensive and complete assortment of CONCENTRATED MEDICINES, which are warranted to be as represented, pure and fresh."

H. H. Hill & Co., (successors to F. D. Hill & Co.), Cincinnati, 1862. "This house was one of the first to introduce the NEW CONCENTRATED REMEDIES. We offer a full assortment of our own articles."

T. L. A. Greve, Cincinnati, 1862. "I keep on hand a full supply of 'CONCENTRATED MEDICINES.'" (No list at that date.)

* (Afterward, H. M. Merrell & Co. Now Lloyd Brothers.)

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These firms listed their products under titles, such as Alkaloids, Resinoids, Resins, and Concentrated Medicines, some even attempting to group or classify the various substances. But, as a rule, no attempt was made to distinguish between useful agents and those questionable, or between the unworthy and those entitled to a systematic position, by legitimate scientific nomenclature. Through journals and circular prints the physicians of America were now flooded with literature more or less extravagant concerning the marvelous alkaloidal and resinoidal remedies, the outcome being that the few worthy members of the group were soon overshadowed by others either unworthy of the name or entitled to no legitimate home anywhere. A heterogeneous collection was that which was finally included in the commercial lists of resins, resinoids, alkaloids, and concentrations, a list that stands yet in current catalogues. But, as has been said, the odium of it all rested, unfortunately, on the Eclectic school of medicine, by reason of the origin of the first of these products, the Resin of Podophyllum, and a few other worthy members introduced by Dr. King, as well as from the fact that many over-enthusiastic Eclectic physicians had been entrapped in the craze.

After the method of American business rivals of that date, the foregoing manufacturers became bitterly antagonistic, and too often were viciously personal. Uncertain products, illogical processes, extravagant claims concerning the "Concentrations and Alkaloids" prevailed to such an extent as to place all who made them on the defensive. The legitimate use, as well as the misuse of the resinoids, crept gradually into print. Outsiders became involved, antagonistically and otherwise, friends were arrayed against each other, and at last the turmoil centered upon and came near disrupting the Eclectic School of Medicine. In it all, as has been said, very different substances masqueraded under the same name in the various published lists. The differences, and the reasons for the differences, may best be explained by a consideration of their position in pharmacy, and the problems that confronted the overly enthusiastic manufacturers.

DISCREDITING THE ECLECTIC ALKALOIDAL, REISINOIDAL CONCENTRATIONS.

In the article titled "Podophyllin and Macrotin," *Eclectic Medical Journal*, Cincinnati, January, 1849, Mr. Wm. S. Merrell reviewed the articles of Hodgson (1832) and Lewis (1847), who had assayed the root of mayapple.* Mr. Merrell also gave his own method of making

*See page 7.

GROVER COE, M. D.

Grover Coe was born in Warwick, Orange County, New York, July 20, 1825, and died August 4, 1860. He early studied medicine, and at the age of nineteen, on the death of his father, Dr. Elias Coe, successfully assumed the responsibilities of his father's practice, remaining in his native village until 1847, when he moved to New York City. This, however, did not prove entirely satisfactory, and being much interested in botanical work, he returned to the more quiet home of his boyhood. In 1851 he again removed to New York City, practicing therapeutics, as well as writing on professional subjects extensively, until 1859. Then, being afflicted with what proved to be an incurable decline, he moved to Wilmington, N. C., from which place he visited, in rapid succession, the "Alleghany Springs," "Red Sulphur Springs," and "Sweet Chalybeate Springs," all of which were then celebrated, but receiving therefrom no permanent benefit. Two days after arriving at the last named place he expired, his remains being removed to his birthplace, Warwick, New York.

Grover Coe was enthusiastic in medical botany and therapeutics, and it is stated that he was proficient in physiology, pathology, and surgery. He was a pioneer in the direction of the "American Concentrations," in which, however, his efforts were largely at fault, and his progress bitterly contested. According to Professor H. D. Garrison, "His principal fault as an investigator was his ardent zeal and enthusiasm—his haste to be right."

Dr. Coe contributed largely to medical magazines of the botanic school, and wrote profusely on the subject of organic remedial agents, especially (as shown in this Bulletin) on the then notorious "concentrations" and "resinoids." In this direction his book, "Organic Constituents of Plants," published by the American Chemical Institute, of New York City, was devoted entirely to these substances and their therapeutic use.

Naturally, and as indicated elsewhere in this Bulletin, Coe's position on the subject of Concentrations led the antagonists of these materials as a class to indulge in many personalities, in which direction, however, Dr. Coe was found to be a strenuous opponent.

An attempt to take a balanced view of the subject and of this actor in these stormy days would lead us to say that his opinions were such as to indicate his earnestness in the support of the substances he championed. We regret that so much imposition, for which he was not responsible, as concerns the concentrations, prevented him from performing impossibilities in what to him seemed to be a hopeful direction.



Very Respectfully
Yours &c.
Groner Coe

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the resin of podophyllum, which he had named podophyllin, a name considered proper by himself and others high in authority.

In that article, which, excepting the contributions of Dr. King, was the first paper that seriously considered the pharmacy of these substances, Mr. Merrell announced that the authority for the said name, for giving which, as already stated, (pp. 11-13), he had been severely criticised, was the author of the United States Dispensatory (p. 27).

Following this, (February, 1849, pp. 66 to 68), Dr. John King, in the same journal, gave his part in the record, citing his method, as used in 1835:

In the fall of the year 1835, I produced for the first time some resin of Podophyllum, Macrotys, Iris, and Aletris, also the dried Hydro-alcoholic extracts of Leptandra and Hydrastis. In obtaining the resin of Podophyllum, I made a saturated tincture of the root, which was placed into an equal quantity of water, and the alcohol distilled off; the resin remained at the bottom of the vessel, and had the appearance of a burnt substance, which led me to imagine that it had probably become injured by the mode adopted for its collection.

As the action of the concentrated principles of our remedies is now undergoing investigation, I would refer to my communication named in the commencement of this, for a list of articles worthy of immediate notice, and will mention several which I have made and used as particularly deserving the confidence of physicians: dried hydro-alcoholic extracts of Baptisia Tinctoria, Euphorbia, Ipecac, Hydrastis Can., Phytolacca Dec., Cornus Sericea, Rumex crispus, and Apocynum Cannabinum.—*Eclectic Medical Journal*, 1849, pp. 66 and 68.

In August, 1849, Dr. S. H. Chase contributed an article commending Leptandrin, to which the editor appended a note, as follows:

We think the value of Leptandrin in dysentery has been thoroughly proved by the experience of the profession in Cincinnati. As a cholagogue remedy of very little purgative power, well calculated to change the morbid diathesis, it is entitled to a high rank.—*Eclectic Medical Journal*, 1849, p. 394.

In October, 1851, the *New England Medical and Surgical Journal*, in an editorial by Calvin Newton, M. D., answered the "question frequently asked," and wrote as follows concerning "the comparative efficacy and value of the concentrated preparations of medicines:"

Which have of late been introduced to the notice of the profession. In answer to such inquiries, we will here say, that we have given several of these preparations a pretty fair trial, and some of them we now hold in high estimation, particularly the leptandrin, podophyllin, and the macrotin.

Came now a voluminous flow of questionings concerning the new remedies, their pharmacy, for which extravagant claims were too often made, and their uses, which involved all concerned in the work, be they conservative or otherwise.

THE ECLECTIC ALKALOIDS.

In 1850, *E. M. Journal*, July, pp. 297-305, Mr. Wm. S. Merrell contributed another voluminous article, titled, "Eclectic Pharmacy." In it he concedes to Dr. King priority in discovering the resins under discussion.

Justice requires me to state that Dr. John King, now Professor in the Eclectic Medical Institute at Memphis, had previously obtained several of these medicinal principles in a form somewhat less refined, and had successfully employed them in his practice, and had published some notices of them in the *Medical Reformer*. But these facts had attracted but little notice, and were wholly unknown to me till after several of my articles had acquired a considerable notoriety.

Whilst thus granting credit of discovery and of therapeutical use, Mr. Merrell, very truly and very properly, claims the credit of introducing the products in commerce. His paragraph on the subject may be repeated:

It is often asked with respect to Podophyllin, Leptandrin, and other analogous preparations, am I the discoverer of these? I answer, I am so, in the same sense that Fulton invented the steamboat and Morse the electric telegraph. The power of steam and its application to machinery was known before the time of Fulton, and it had even been applied to the propelling of a boat; but he carried these inventions *one step* further and first made them of practical utility in navigation.

The substances mentioned were all prepared after the process of making resin of podophyllum, the process being given as follows:

The process of procuring these is in theory very simple. It is, in general, to obtain a saturated alcoholic tincture of the root. To this add a large quantity of water, and distill off the alcohol. The watery menstruum holds in solution the gum, mucilage, extractive and most of the coloring matter, while the resinoid substance subsides, and is collected, washed, and dried. Still the process requires in many points no little skill and pharmaceutical experience for its success.

Yet the precipitates were not, all of them, resins proper, a fact that Mr. Merrell comments on as follows:

Like the pure resins, they are neutral in their chemical character, i. e., neither alkaline nor acid, so that they are not disposed to combine directly either with acids or alkalies, except with the latter in the same manner as oils do, forming saponaceous compounds. They are, like resins, softened by heat, and when cold and dry, (unless combined with an oil, as many are), break with a vitreous fracture. Still they are not properly resins, for they are not perfectly liquefied by heat alone, nor are they fully soluble in essential oils, as the pure resins are.

For these reasons, Mr. Merrell introduced the name *resinoid*, claim-

THE ECLECTIC ALKALOIDS.

ing the word resinoid (resembling resins) to be an appropriate class-title. His words may be reproduced, as follows:

The most important class of these new agents is the Resinoids. We call them Resinoids; that is, as the word imports, "resembling resins."

In detail, Mr. Merrell (see p. 11) defends the names applied to the substances introduced, citing, as typical among the *in* terminations, the resins discovered by King, viz.: The resins of Podophyllum and Macrotys, to which Mr. Merrell adds Jalapin as a proper title for resin of jalap.

The names by which I have designated these resinoids is found fault with. Some contend that they should be denominated the Resin of Podophyllum, of Macrotys, or Iris, etc., while others claim for them no higher appellation than that of extracts, but both denying their right to the termination of *in* or *ine*. Well, what is a name but an abbreviation to avoid the prolixity of a description of that which we wish to designate?

In records of abstract science it may be well enough to designate a thing by a description of its character, but when that thing becomes one of commerce and daily use, convenience requires that it be indicated by a single word, or at least, by the fewest practicable. Now I claim to have as good a right to give names to things as any one else, especially if they are my own offspring. But I have not acted without authority. Professor Wood, author of the U. S. Dispensatory, who is no mean authority, speaking of the bitter substance obtained from the root of the Podophyllum by Wm. Hodgson, jun., says: "Should this be found to be the purgative principle of the plant," (for this was not then ascertained, and indeed as obtained by Mr. H. its purgative property was nearly destroyed), "it would be entitled to the name of *Podophyllin*." Turner, in his Elements of Chemistry, mentions many articles perfectly analogous to these which he designates by the termination *ine*, added to the generic names of the articles from which they are obtained, as Haematoxyline, Gentianine, Populine, Liriodendrine, etc.* For the sake of perspicuity, I propose this as the mode, in part, of naming the proximate principles of vegetables, viz.: that the names of the alkaloids uniformly terminate in *a*, after the analogy of the alkalis and alkaline earths, soda, potassa, magnesia, etc. Thus we should have Quinia, Morphia, Strichnia, Veratria, etc. But that the names of the resinous principles or resinoids should be made to terminate in *in*, after the analogy of the generic substance resin or rosin, and accordingly we should write Podophyllin, Macrocin, Jalapin, etc. This rule I have adopted in naming the new medicinal principles which had not before received a settled designation.—*Eclectic Medical Journal*, 1850, p. 299.

In order that a list of the articles and prices Mr. Merrell felt justified in quoting at that date may be preserved, we reproduce from the *Eclectic Medical Journal*, September, 1856, his advertisement, together with a few well advised comments concerning same:

CLASS I. POWDERED RESINOIDS. They are mostly of a *resinoid* character, in form of a powder, more or less colored, and generally Amorphous. . . .

* With respect to the final *e* in these names, good authorities differ, some adding, and others omitting it.

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Eight years ago we introduced the first three of these to the notice of the Profession, and many of them are now regarded by a large class of Physicians as indispensable to a judicious practice.

Podophyllin,	(from <i>Mandrake</i>),	.....per oz., \$o 75
Leptandrin,	(from <i>Culver Root</i>),	....." o 75
Macrotoin, or		
Cimicifugin,	(from <i>Black Cohosh</i>),	....." o 62
Baptisin,	(from <i>Wild Indigo</i>),	....." 1 00
Caulophylline,	(from <i>Blue Cohosh</i>),	....." 1 00
Cornine,	(from <i>Dogwood</i>),	....." 1 00
Corydaline,	(from <i>Turkey Pea</i>),	....." 4 00
Cypripedin,	(from <i>Ladies Slipper</i>),	....." 1 00
Dioscorein,	(from <i>Wild Yam</i>),	....." 2 00
Eryngine,	(from <i>Corn Snake Root</i>),	....." 1 00
Eupatorine,	(from <i>Boneset</i>),	....." 1 00
Geranine,	(from <i>Cranesbill</i>),	....." o 62
Hydrastine,	(from <i>Goldenseal</i>), Neutral	....." 1 50
Hydrastin,	" " Resinoid and im-	
	pure Alkaloid combined,	" o 62
Jalapin,	(from <i>Jalap Root</i>),	....." 1 00
Juglandin,	(from <i>Butternut Bark</i>),	....." o 75
Lobeline,	(from <i>Lobelia Herb</i>),	....." 1 00
Myricin,	(from <i>Bayberry</i>),	....." o 63
Phytolaccin,	(from <i>Garget or Poke</i>),	....." 1 00
Prunine,	(from <i>Wild Cherry</i>),	....." o 75
Sanguinarin,	(from <i>Bloodroot</i>), Resinoid	....." o 75
Sanguinarina,	" " Alkaloid	....." o 80
Scutellarine,	(from <i>Sculleap</i>),	....." 2 00
Senecionine,	(from <i>Life Root</i>),	....." 2 00
Trillin,	(from <i>Birth Root</i>),	....." 1 00
Xanthoxilin,	(from <i>Prickly Ash Bark</i>),	....." 1 00

A few of the above have as yet been but partially tested in practice, but from the favorable reports we receive of them, and from their sensible properties, we feel confident that they are continents of the medicinal virtues of the plants they represent.

We have obtained dry resinoid powders from several other roots, barks, and herbs, as the Gelsemium, Iris, Helonias, Hellenium, Rhus Glabra, Stillingia, etc., but these in powder do not appear to us to possess the full virtues of the plants that yield them, and we can not recommend them as eligible preparations. We therefore omit them in this class. We may probably yet succeed in obtaining several of them of a satisfactory quality, and shall then add them, and others which may be discovered, to the above list.

CLASS II.—SOFT RESINOIDS AND OLEO-RESINS, ETC.

These are the Resinoid and Oleo-Resinous substances which constitute or contain the Medicinal principles of the plants from which they are named. Most of them, like many of the first class, are precipitated by water from their alcoholic solutions, and are of nearly the same degree of medical power and purity. But they are soft or semi-fluid in their character, and can not be presented in the powdered form without decomposing, or greatly modi-

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lying those native combinations in which they exist, and in which we conceive they best represent the medical properties of their sources. We present them in form of soft extracts, or thick oils, put up in 1 oz. vials, as follows:

Apocynin,	(from <i>Dogbane</i>),	.....per oz.,	\$o 75
Aletin,	(from <i>Star Root</i>),	....."	o 75
Asclepidin,	(from <i>Pleurisy Root</i>),	....."	o 75
Eupurpurin,	(from <i>Queen of Meadow</i>),	...."	o 62
Helonin,	(from <i>Unicorn Root</i>),	....."	o 72
Iridin,	(from <i>Blue Flag</i>),	....."	o 62
Liatrin,	(from <i>Button Snake Root</i>),	..."	o 75
Rhusin,	(from <i>Sumach</i>),	....."	o 62
Ptelein, Oil of Ptelea,	(from <i>Wafer Ash</i>),	....."	o 75
Oil of Lobelia,	(from <i>Lobelia Seed</i>),	....."	o 75
Oil of Capsicum,	(from <i>African Cayenne</i>),	...."	o 75
Oil of Male Fern,	.....	....."	1 00
Oil of Stillingia,	.....	....."	1 00
Oil of Xanthoxylum,	(from <i>Prickly Ash</i>),	....."	o 75

Mr. Merrell also calls attention (see preceding list) to the oleo-resins, which were afterwards by some persons called "soft resinoids," to distinguish them from the "dry resinoids."

Nearly allied to the resinoids are those medicinal principles which are extracted from certain vegetables by *sulphuric ether*, and are presented in the form of fixed oils. Of these I have prepared only those of Lobelia, Capsicum, and male fern. The first probably holds in solution the alkaloid Lobelina, and the second the resinoid Capsicin, but I have never made an analysis of them. These are powerful agents. The Oil of Lobelia is valuable in Tetanus and some other extreme cases, as it is easy to introduce enough upon the tongue to relax the whole system speedily, but it should not be used pure as a common emetic, as there is too much danger of producing local inflammation of the stomach, by the action of so concentrated a medicine.—*E. M. Journal*, 1850, pp. 302, 303.

This article proved the beginning of an acrimonious controversy over the new products which, as already shown, had suddenly sprung into commercial activity. Throughout the land inquiries had arisen concerning their composition and methods of production. Eclecticism, which, as a reform practice, had to this date been on the offensive, but which yet had been wisely ignored by the "Allopaths," known also as the "Regular School," could no longer be neglected. It was now artfully, but yet discreetly, attacked in its most vulnerable point, viz., the alkaloidal, resinoidal craze. One sentence in the article of Mr. Merrell was not taken kindly by the Faculty of the Philadelphia College of Pharmacy. It occurred in reference to fluid extracts then coming into "Regular" conspicuity, to-wit:

This mode of exhibiting medicines is now the *hobby* of the Philadelphia College of Pharmacy.—*Eclectic Medical Journal*, 1850, pp. 297-298, 303.

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The time being now opportune to attack the whole alkaloidal, resinoidal, concentration subject, which, as we have shown, was sadly vulnerable, Mr. Merrell's article was selected as the text. In the *American Journal of Pharmacy*, October, 1881, (pp. 329 to 335 inclusive), Professor Edward Parrish, than whom there was no abler pharmacist, attacked Mr. Merrell and all things relating to the new resinoids. Concerning the drugs yielding the resinoids, Professor Parrish extricates the "Regular" school from their use, as follows:

They are obtained from the roots of *Podophyllum peltatum*, *Cimicifuga racemosa*, *Sanguinaria Canadensis*, *Leptandra Virginica*, *Iris versicolor*, and certain other roots, which are little used by regular practitioners.

To this Mr. Merrell made no reply, and seemingly, as is usually the case in a personal attack, the article made no impression on either the manufacturers or the consumers of the products involved. But several of the newly introduced resins cited by Professor Parrish as Eclectic products could not be brushed aside by criticisms. They proved to be very energetic and very great favorites in all directions. Into such demand did they spring, as to take all the care their makers could devote to the laboratory. But the ultra enthusiasts wrecked the opportunities of the day. So marvelous were the qualities attributed to these products, as a class, that men skilled, as well as men unskilled, were led to start their indiscriminate manufacture, and in the craze the list of items was enlarged by leaps and bounds. The legitimate resinous precipitates were quickly crowded into a corner, whilst in quick succession lists of "concentration" this, and "concentration" that, appeared. In these all kinds of bodies figured, as though established both as concerns their pharmaceutic quality and therapeutic action. These lists embraced dried extracts, oleo-resins absorbed by magnesia or other inert substance and then powdered, alkaloids and alkaloidal salts of hydrastis and sanguinaria, more or less impure, a few legitimate resins, pure as well as depraved, and products made by precipitating solutions of sodium carbonate and alum, in contact with organic liquids which threw down colored precipitates of aluminum hydroxide, more or less flavored with the drug, etc., etc. These and other substances, under many labels, came as parasites to plague the school that had given to the worthy members of the class a position in medicine.

The legitimate pharmaceutical work of Mr. Merrell, and the professional care of Dr. King, were insufficient to control either the names or the products masquerading under the plant names, and within a brief period Eclecticism became saddled with an alkaloidal-resinoidal fad that bade fair to discredit the most earnest efforts of its disciples,

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to crush its usefulness, and to close its career. It was now apparent that either the alkaloidal-resinoidal craze in Eclecticism must be at once arrested (as well as the theory that to the poisonous constituents of plant remedies were due their therapeutic qualities), or the school must perish. This all men concerned in the ideals of the Reform School of American medicine now fully comprehended. To add to the dilemma came a new complication, for about this time the Thomsonians became involved in the craze, as may be shown by the following brief historical reference.

In 1849, E. S. McClellan & Co.* began in Cincinnati the manufacture of "podophyllin." They soon sold out to Drs. Hill, Crutcher & Co., (F. D. Hill, Jos. Crutcher, Jos. Brown), but again established themselves in business. Dr. Brown was a professor in the Physio-Medical College (Thomsonian), of Cincinnati. His make of concentrations was commended editorially, as follows, in the *Physio-Medical Recorder*, 1850, pp. 167-8, and also by contributors to that journal, who, for the time, forgot the principles of Thomson:

CONCENTRATED MEDICINES.—Two years ago the idea (could it have been conceived of) that the huge doses of medicine then given, by our practitioners generally, could and would be reduced to doses of from one to three, or even five grains, would have appeared as chimerical as the idea, twenty years ago, that one man could stand in the city of Boston and converse with his friend in New Orleans almost as readily as if they stood side by side. But time and experience have fully demonstrated the fact.

Those medicines, exhibited in almost Homeopathic doses, not less mildly, efficiently, and safely, than the crude articles from which they were prepared; and the smallness of the dose divests the reformed practice of everything that was cumbersome, inconvenient, and disagreeable, and renders it as acceptable to the patient as the Homeopathic practice, so far as regards the dose.

We can not but regard this improvement in our materia medica as the brightest feature in the great and glorious work of medical reform.

Our Allopathic friends have, for a long time, been engaged in the preparation of concentrated medicines, and their agents have done much, very much, toward rendering their practice acceptable and popular; but how different their articles from ours. They extract proximate principles, many of which are most deadly in their character. From extract from the poppy they extract their morphine, from the strychnos (*nux vomica*) they extract their strychnine, two grains of which will kill; from cinchona they extract their quinine, etc.

Now, our agents are reduced to a concentrated form without breaking up the relations existing between the proximate principles. For example, we reduce lobelia to so concentrated a form, that from three to five or ten drops upon loaf sugar, or dropped into water, are sufficient to produce emesis; still,

* For the history of this firm, and the bitterness of the controversy, see *Eclectic Medical Journal*, 1850, pp. 345 to 344, and p. 384. The firm afterward became the very worthy house, H. H. Hill & Co., Race and Fifth Streets, Cincinnati. They were long a factor in American plant products, but are out of business, with no direct successor.

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this article is not lobelina, one of the proximate principles of lobelia, and is as safe as lobelia herb or seed. Again, we reduce leptandra to so concentrated a form, that a dose of from one to three or five grains will produce catharsis, yet this is not leptandrin, one of the proximate principles of leptandra. And so on, with our other remedial agents.

Now, we do regard this process one of the most valuable improvements of these days of improvements, and we bid Drs. Hill, Crutcher & Co. God-speed in this good work!

With this great improvement in our materia medica, we feel more than ever inclined to the belief, that the Physio-Medical Practice will soon, very soon, become the most popular and successful practice of medicine. . . . In the meantime let practitioners beware of impositions, for it would mean that every fellow, who can raise three dimes, is embarking in the business of Concentrating Medicines, not so much with the view of improving the character of medicines, as to get the dimes. Some there are who have engaged in the business who are ignorant of the first principles of chemistry and pharmacy. —*Physio-Medical Recorder*, Vol. XVIII, 1850, pp. 167, 168.

Let us call attention to two features of this editorial.

In the one case it was said,

We can not but regard this improvement in our materia medica as the brightest feature in the great and glorious work of medical reform.

In the other direction, the readers were warned against fraud as follows:

In the meantime let practitioners beware of impositions, for it would mean that every fellow, who can raise three dimes, is embarking in the business of Concentrating Medicines, not so much with the view of improving the character of medicines, as to get the dimes. Some there are who have engaged in the business who are ignorant of the first principles of chemistry and pharmacy.

Thus the problem became more complicated, for now three schools in medicine, Thomsonian, Eclectic, and Allopathic, were acrimoniously involved, two of them (Eclectic and Thomsonian) being much perplexed and painfully implicated. The Homeopathic school happily escaped.

Throughout the year 1851, Professor E. S. McClellan carried articles on the subject in the Worcester (Mass.) *Journal of Medicine* (Eclectic). In September, 1851, Newton* and Kelley of that city began the manufacture of the various resinoids, alkaloids, etc. In 1852 appeared "The Eclectic Dispensatory," by King and Newton,† in which, however, only the legitimate resins and oleo-resins were given a position. Soon thereafter the American Chemical Institute of New York, B. Keith & Co., (see p. 21), entered the field, and

* Dr. Calvin Newton, not R. S. Newton.

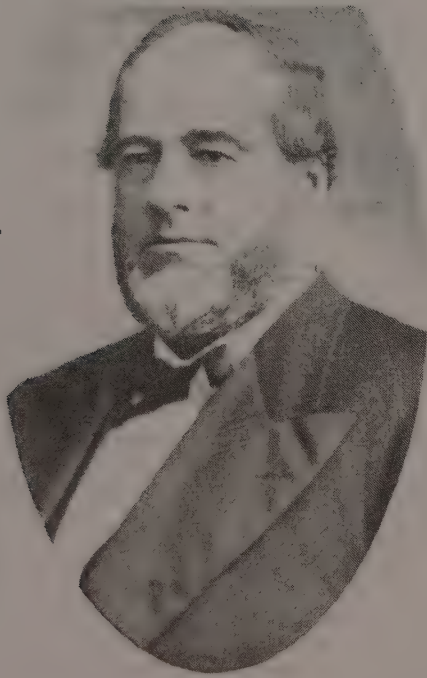
† R. S. Newton, M. D.

ROBERT SAFFORD NEWTON, M. D.

Robert Safford Newton, M. D., was born near Gallipolis, Ohio, December 16, 1813, and died in New York City, October 9, 1881. At an early age he determined to become a physician, and left his country home to attend the academy at Lewisburg, Va., afterwards studying medicine with Dr. Edward Haret, of Gallipolis. Under the personal care of the principal of the Gallipolis Academy, and of the pastor of the Methodist church of that town, he studied Latin, Greek, philosophy, and mathematics. In 1839 he matriculated in the Medical University of Louisville, Ky., graduating in March, 1841. His medical education being on "Regular" lines, under such authorities as Drake, Gross, Yandell, and Caldwell, was, in his opinion, illogical in theory and cruel in practice. In 1846 his liberal tendencies led him to break those affiliations and unite with the "Reformers," or Eclectics. Surgery being his specialty, he was called to the chair of Surgery in the Memphis Institute, Memphis, Tenn., serving therein from 1849 to 1851. Thence removing to Cincinnati, he taught surgery in the Eclectic Medical Institute until 1862, sharing the leadership of the Eclectics of this section with the distinguished humanitarian, Dr. Joseph Rhodes Buchanan, and during this period he edited the Eclectic Medical Journal. In 1863 he removed to New York City, where he assisted in forming the Eclectic State Society, being instrumental, with Wilder and others, in obtaining the charter, (1865), for the Eclectic Medical College, now so thriftily established in that city. Between that date and 1874 he assisted in editing the Eclectic Medical Review, and the Medical Eclectic.

Dr. Newton was one of the original signers to the call for the Eclectic National Association, in the sessions of which his person and his voice were both prominent. He financially assisted Dr. John King, 1852, in issuing "The American Dispensatory," under the name King and Newton. He published "Chapman on Ulcers," (1863), "Physiological Botany," (1863), "Powell and Newton's Eclectic Practice of Medicine," (1854), "Symes' Surgery," (1856), and "Pathology of Inflammation and Fevers," all of which were popular and passed through many editions.

Dr. Newton was of large stature and of distinguished appearance. He was independent in thought and action, a comprehensive lecturer, and a successful surgeon. His efforts and energy profited American medicine, in the early annals of which he was a conspicuous factor. Dr. O. H. Newton, a brother of Dr. R. S. Newton, was a very active Eclectic, practicing medicine in Cincinnati to the time of his death.



ROBERT SAFFORD NEWTON, M. D.

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from that date to 1865, all physicians of America, through journals and circulars, were flooded with extravagant literature concerning the marvelous American alkaloidal and resinoidal remedies. The few worthy members of the group were soon overshadowed by those unworthy of the name, many of the intruders being entitled to no legitimate home anywhere. The odium of it all rested, by reason of the origin of the products, on the Eclectic school, although (Wilder) the American Chemical Institute of New York, and their agent, Grover Coe, the most conspicuous of all implicated in the publicity given these products, had (before this time) "united their interests with those of the dominant (Allopathic) school."

THE ECLECTIC REVOLUTION.

Then it was that Professor John King, M. D., the discoverer of the first of the few worthy members of the class, wrote a crushing communication to the *Worcester Journal of Medicine*, June, 1855, pages 225-227, from which we extract as follows:

I now wish to call the attention of all classes of physicians to a most stupendous fraud which is being perpetrated upon them in relation to concentrated preparations, in which oils, oleo-resins, fluid extracts, etc., are triturated with finely powdered green leaves, or roots, or barks, perhaps of the crude articles of which they purport to be concentrations, as well as with rosin, carbonate of magnesia, etc. The resin of jalap, which can be obtained for two dollars a pound, is triturated with some inert agent, and sold for Jalapin at one dollar an ounce; and similar impositions. . . .

I regret that I am compelled to thus definitely allude to these matters, but there is no help for it—the cause of Eclecticism, of truth, of justice, demands it. Already are the old-school physicians manifesting an interest in our concentrated remedies, and if we permit such trash to be foisted on them as pure agents, they will believe that Eclecticism is indeed quackery and humbug, and it will require years to overcome the effects of such a disgraceful blow. We have sufficient to do in contending for the truth and justice of our cause, without warring against the imposition of those who either directly or indirectly claim to be with us.

I am sorry to say some individuals have been found so far regardless of the good of the cause, and their own honor, as to have made strenuous efforts to introduce these agents to the profession by all the means in their power.

I shall make no comments on the subject; it speaks for itself with the voice of a stentor, and every honorable man, every true Eclectic, can not but feel its voice enkindling within his whole soul the strongest feelings of censure and indignation toward those who would thus deceive the profession in a matter so intimately connected with the health and lives of their fellow creatures.—*John King, 1855.*

Simultaneously with this attack of Dr. King, Professor Edwin S. Wayne, a talented pharmacist of Cincinnati, chemist of the renowned Ohio Medical College, contributed a four-page paper to the *American*

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Journal of Pharmacy, exposing the alkaloids, resinoids, and concentrations made by the American Chemical Institute, of New York.

To use the words of Professor Wayne:

An association, styled the American Chemical Institute, has recently been established in the city of New York, ostensibly for the purpose of manufacturing the concentrated remedies (resinoids and oleo-resins) so extensively used at present by the physicians of the Eclectic school, in their purity and in a scientific manner.

* * * * *

I have examined in all eighteen specimens of the products of the American Chemical Institute, called resinoids and alkaloids, and have found but four specimens to be as represented; namely, jalapin, which is the true resin of jalap, powdered; podophyllin, the resin of the *Podophyllum peltatum*; Sanguinarin, from the *Sanguinaria Canadensis*; and Hydrastine* a crystallizable principle obtained from the *Hydrastis Canadensis*.—*Am. Jour. Pharm.*, 1855, p. 388.

Observe that Professor Wayne refers to the Eclectic members of the list as being proper products, when used "in their purity and in a scientific manner," but his analyses showed that the commercial so-called resinoids and alkaloids were, with few exceptions, mixtures of inorganic bodies, such as magnesia, and traces of vegetable extractives.

In this connection it may be stated that while Professor Wayne primarily attacked the sophisticated compounds, he also, in a logical way, opposed the dogma of a single principle being capable of paralleling a plant as a whole, or even being competent to carry the qualities of a natural textural structure obtained therefrom. He also took pains to *credit* the Eclectic school with the authoritative work it had accomplished, a refreshing innovation seldom found in the literature of the dominant school of those days. We quote as follows:

To the physicians of the Eclectic school much credit is due for their efforts in investigating our indigenous materia medica, and through their efforts many substances have been brought into use. These, though of much value, may again fall into disuse, simply because these resins have been said to be their active principle, without any further examination, and when tried, found to be wanting, the manufacturers having thrown away the pearl and retained only the shell.

Professor Wayne then goes on to state facts indisputable, which Dr. King had for twenty years so faithfully observed in his advice and methods, to wit:

These resins have been claimed as an advance in pharmacy. For my part I can not perceive it. The fact that plants contain a resin is not new; neither is the use of them medicinally. It is an easy method of obtaining a something, to be called the active principle; and in most instances they will be found to contain

*This is Berberine, see Bulletin No. 20. Lloyd Library publications, Drugs and Medicines of North America section, p. 66. Also Drugs and Medicines of North America, same page.

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but little, if any, of the medicinal value of the substances they may be obtained from, .being far more inferior than a common extract, and much more expensive. . . .

And to the pharmacutists engaged in the manufacture of concentrated remedies, I would recommend that they make an analysis, and have the results tried, before they decide that the resin is the active principle, and cry "Eureka, I have found it!"

It is well now to summarize the results of the second analyses by Professor Wayne, which can be succinctly stated as follows (*College Journal*, 1856, pp. 23, 24, 25):

Lobelin.—Forty-four per cent insoluble in water and alcohol, more than half of which was magnesia.

Hydrastin.—Largely sodium chloride.

Veratrin.—Much potassium sulphate.

Senecin.—Much magnesia.

Stillingia.—Much magnesia.

Asclepin.—Much magnesia.

Gelsemin.—Much magnesia.

Cypripedin.—Much sodium chloride.

Prunin.—Much sodium chloride.

Stillingin.—Much magnesia.

Phytolaccin.—Much sodium chloride.

Myricin.—Much sodium chloride.

Helonin.—Much sodium chloride.

Podophyllin.—Much sodium chloride.

Alnuin.—Much ferrous sulphate.

Geranin.—Magnesia.

These attacks and criticisms all emanated from Cincinnati, the headquarters of Eclecticism, and were fathered both by Professor Wayne, the most conspicuous chemist in the Cincinnati Allopathic School, and by Dr. John King, the foremost authority in Eclecticism, as well as by other earnest Eclectics. Such criticisms could not well be neglected, consequently Grover Coe, of the American Chemical Institute, in the *Eclectic Medical Journal*, Cincinnati, February, 1856, pp. 92 to 96 inclusive, attacked Wayne *personally*. Because of the opportunity afforded, and the necessity for defense, it is to be regretted that, instead of the tirade of abuse, a statement of fact, and a few much needed suggestions concerning plant products were not made (see pages 37, 38). In the same journal, pages 123 to 126, under the title, "Macrotin," Coe also attacks Dr. King in a like personal manner.

But in one direction, (while not accounting for the products found by Wayne), Dr. Coe strikes an as yet too long neglected fact concerning organic structures; namely, the important part played by combined *inorganics*. He aptly refers to the sulphur in certain plants, and had he developed this idea in the direction of other inorganics, in-

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stead of marring his paper by the personal abuse given Professor Wayne, he would have scored heavily in the controversy. His point, blemished though it be by personalities, may be reproduced as follows:

In this branch of study is included a thorough cognizance of the constituents of all organisms, and as far as our knowledge extends, the manner in which their constituents are combined to form the various organs of plants. It is necessary that the tyro should be taught that sulphur is an invariable constituent of certain plastic organic matter, and that unless this sulphur is contained therein, this matter can not really exist—can not be produced even by the wondrous fabricating power of the vegetable which forms it.

This fact happens to be entirely unknown to Mr. Wayne, or else, if he is cognizant of it, he hides it from the reader by his characteristic ambiguity of expression. That portion of his article, for instance, relating to *Veratrin*, presents a fair sample of the ignorance alluded to, or else of his obscurity of diction. This "analysis" indicates a ludicrous example of what stupid deduction can effect, when not guided by scientific learning. Not aware that all the plants of the hellebores, and likewise those of the mustard species, contain especially a large amount of sulphur.—DR. GROVER COE, *Eclectic Medical Journal*, 1856, p. 93.

In 1855 appeared the work of Grover Coe, "Positive Medical Agents," a pretentious book of 304 pages, devoted entirely to the marvelous claims of the alkaloids and resinoids manufactured by the American Chemical Institute. Simultaneously, the author contributed many articles of like import to current medical literature. The war of the alkaloids and resinoids was now at its height. In the *College Journal*, Cincinnati, 1856, (pp. 45-48), Professor Wayne again attacked the entire class of these substances, and also the principle of considering the resinous precipitates as plant representatives. He showed that resins and alkaloids may or may not be characteristic of the qualities of the drug from which they are derived, and again attacked in a logical way the dogma of a single principle paralleling the plant as a whole. In the same issue of the journal, (pp. 48, 49), came a reply from Mr. Merrell, disclaiming that Wayne's article referred to his products,* from which we quote, as follows:

So far as our establishment is concerned, or that of others of the more respectable manufacturers of these medicines, the above article has no application.

November, 1855, Dr. R. S. Newton, the editor of the *Eclectic Medical Journal*, Cincinnati, and co-editor with Dr. John King of the American Dispensatory, issued the following call for information:

Messrs. W. S. Merrell & Co., F. D. Hill & Co., and T. C. Thorp, Cincinnati, and B. Keith & Co., New York.

GENTS—As our readers are continually soliciting information from us on

* Professor Wayne's letter having been sent Mr. Merrell, in order that his reply might appear simultaneously with the attack.

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the subject of Organic Chemistry, or the Chemistry of Plants, and believing that you possess knowledge that would be of interest to the profession, we solicit from you a statement of the chemical principles of some of the leading articles which you prepare, such as Podophyllin, Leptandrin, Hydrastin, Jalapin, Gelsemin, Macrotin, Hyoscyamin, etc.

Very respectfully,

R. S. NEWTON, M. D.

To this only B. Keith & Co., the founders and owners of the American Chemical Institute, replied, (*Eclectic Medical Journal*, 1856, pp. 18, 19), defining their products as best they could, but in it all neglecting to refer to the charges of Wayne and King concerning the great amount of foreign bodies found in their products.* From the article we select as follows:

Many of the articles do not contain all of the active principles of the plant from which they are derived. For instance, the *jalapin*, as it is generally prepared, is a resinoid, although the jalap plant contains three principles; viz., a resinoid, a neutral principle, and an alkaloid principle. . . . The neutral and alkaloid principles do not contain the irritating properties that are to be found in the resinoid. . . . By the term neutral principle, we designate a preparation which we have devoted a considerable time to perfect. There are a number of plants which possess the active alkaloid in considerable quantity, but so inseparably associated with the extractive and coloring matter of the plant, that so far we have been unable to separate them. We have almost exhausted the resources of chemistry in the endeavor to separate and to purify the alkaloids of these plants, but without avail. For the present, we put up these alkaloids in their instinct combinations with the extractive and coloring matters under the general designation of *alkaloid principles*. The latter two matters, however, must exist in very small quantities, if we are to judge from the great activity displayed by the entire preparation as we put it up. . . . By the designation of *alkaloid*, we mean that principle which has been recognized by chemists as susceptible of combination with acids to form salts. It is undoubtedly true that some of the most active preparations of the vegetable kingdom reside in these alkaloids, but by the expression we would not by any means assert that all the active principles of the plant reside in the alkaloids, for it will be directly seen that the resinoids and resins possess especial active properties.

Under the designation *resinoid*, we have put up those principles which are insoluble in water. Here we have, combined with a very active principle of the plant, the wax and the fat. The latter, however, exists in small quantity, if we are to derive our conclusion from the activity of the preparation.

By the term resin, we mean those principles which are insoluble in water. The effects of resins, it is perceived, are entirely different from those of resinoids, the alkaloid principles, or the alkaloids proper.

Then follows Keith's certified list, in which, by means of such

*Let us repeat that in this direction was lost a mighty opportunity. The microscope and the telescope of therapeutic inquiry has been too long and too exclusively turned on the *organic* side of plant life. The part that *inorganics* play in molecular structures is in our opinion very important and sadly neglected by investigators. In our opinion, the structural influence of the mineral and earthy bodies is yet to be shown of importance in many directions where chemists are hopelessly puzzled, but yet are in countless repetition excluding the inorganics.

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terms as rd., res., etc., an attempt is made to establish their several constituents.*

LIST OF ARTICLES.

EXPLANATION.—rd., resinoid; res., resin; n. p., neutral principle; alk. p., alkaloid principle; alk., alkaloid.

Powders.	Obtained From.
Alnuin, res., rd., n. p.	<i>Alnus Serrulata.</i>
Apocynin, rd., res., n. p.	<i>Apocynum Androsaem.</i>
Asclepin, rd., n. p.	<i>Asclepias Tuberosa.</i>
Caulophyllin, n. p.	<i>Caulophyllum Thalic.</i>
Cornin, rd., n. p.	<i>Cornus Florida.</i>
Cypripedin, rd., n. p.	<i>Cypripedium Pubes.</i>
Chelonin, n. p.	<i>Chelone Glabra.</i>
Eupatorin, rd., n. p., alk.	<i>Eupatorium purpur.</i>
(From <i>Eupatorium purpureum.</i>)	
Eupatorin, rd., n. p., alk.	<i>Eupatorium Perfolia.</i>
(From <i>Eupatorium perfoliatum.</i>)	
Gelsemin, rd., res., n. p., alk.	<i>Gelsemium Semper.</i>
Geranin, rd. and tannin.	<i>Geranium Mac.</i>
Helonin, n. p.	<i>Helonias, Dioica.</i>
Hydrastin, rd., res., n. p., alk.	<i>Hydrastis Canadensis.</i>
Hyoscyamin, rd., res., alk.	<i>Hyoscyamus Niger.</i>
Irisin, rd., n. p., alk. p.	<i>Iris Versicolor.</i>
Jalapin, rd.	<i>Ipomoea Jalapa.</i>
Leptandrin, rd., res., n. p., alk.	<i>Leptandra Virgin.</i>
Lobelin, rd., n. p., alk.	<i>Lobelia Inflata.</i>
Lupulin, res., rd., alk. p.	<i>Humulus Lupulus.</i>
Macrocin, rd., n. p., alk. p.	<i>Macrotys Racemosa.</i>
Myricin, rd. and tannin.	<i>Myrica Cerifera.</i>
Prunin, rd., n. p., alk. p.	<i>Prunus Virginiana.</i>
Podophyllin, rd., n. p., alk. p.	<i>Podophyllum Peltatum.</i>
Phytolaccin, rd., n. p.	<i>Phytolacca Decandra.</i>
Rhusin, rd., res.	<i>Rhus Glabra.</i>
Rumin, rd., n. p.	<i>Rumex Crispus.</i>
Sanguinarin, rd., n. p., alk.	<i>Sanguinaria canad.</i>
Scutellarin, rd., res., n. p.	<i>Scutellaria Laterifolia.</i>
Senecin, rd., n. p.	<i>Senecio Gracillis.</i>
Stillingin, oil, rd., n. p., alk. p.	<i>Stillingia Sylvatica.</i>
Veratrin, res., rd., n. p., alk.	<i>Veratrum Viride.</i>
Viburnin, rd., res., alk.	<i>Viburnum Opulus.</i>
Xanthoxylin, rd., n. p.	<i>Xanthoxylum Fraxin.</i>

From this date the controversy became vicious and personal, Eclectic and other medical literature being burdened with bitter discussions. Manufacturers of these products increased in number, and

* This list is of further interest in that it is the most complete of the lists of alkaloids, etc., issued to that date. For historical completeness, it is inserted, *verbatim*.

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in a spirit of rivalry indiscreetly expanded their lists until the number of items included among the concentrations far exceeded reason, if proximate plant constituents, as intended by their originators, formed the basis. Under such influences the crusade of disfavor continued with repeated attacks, chiefly now from within the school to which they owed their origin. Of such, the following, from the conspicuous Eclectic authority, Professor John M. Scudder, M. D., is an example:

In 1855 much of Eclectic medicine was an unmitigated humbug. That was the day of the so-called concentrated medicines, and anything having a termination in "in" was lauded to the skies. It was claimed that these resinoids were the active principles of the plants, and as they would replace the old drugging with crude remedies and teas, they must prove a great boon. But they did not give success, and finally, after trying them for awhile, the practitioner would go back to the crude articles and old syrups and teas with success, or he would settle down to podophyllin catharsis and quinine.—Editorial by John M. Scudder, M. D., *Eclectic Medical Journal*, March, 1870.

To this may be added such expressions as the following, from a series of articles titled "*Pharmaceutical Chemistry*," 1875, in which the present writer thus refers to the substances under discussion:

I have commenced this series of articles with the opinion that unless we go over and examine into the peculiarities of the complex elementary bodies that constitute medicinally the bone and sinew of our crude plants, many of us will in no wise be in circumstances either to understand clearly the nature of the pharmaceuticals themselves, as they are, or the nature of the pharmaceuticals as they should be. . . . Again I desire particularly not to have the term alkaloid, as used by me, confounded and connected with a certain line of stuffs called indiscriminately by the several names of resinoids, concentrated medicines, and alkaloids, for never, under any circumstances, do I even refer to these nostrums as medicines.—John Uri Lloyd, *Eclectic Medical Journal*, May, 1875.

Finally, with a few exceptions, such as the Resin of Podophyllum and the alkaloidal salts of hydrastis and sanguinaria, came the utter neglect of these products by the Eclectic profession in behalf of the kindlier system of medication and the more rational ideas of therapeutics that came in the advent of Dr. John M. Scudder. The few items now employed are used in very small doses, in specific directions, and the dosage, as a rule, is constantly decreasing. But their commercial importance did not greatly suffer by the loss of the Eclectic patronage, for about the date of their discrediting in Eclecticism, they passed into the hands of pill makers and proprietary formula compounders, and the physicians who believed in heroic dosage. But even with these people only a few items have now any standing whatever, although it can not be denied that these few are most heroically and extensively prescribed and in proprietary physic most freely swallowed.

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The English Euonymin Craze.—A quarter of a century after the resinoids of America received their deathblow at the hands of the Eclectics, a peculiar craze for *Euonymin* struck England. The American manufacturers' lists quote two colors of the drug (see page 51), one green and the other brown. These two forms came into English demand, and owing largely to their exploitation by the celebrated Dr. Richardson, of London, so great was the "Euonymin" craze in that country that within a brief period American resinoid makers were overwhelmed with orders.* The root, root-bark, shrub, and the shrub-bark supplies of the crude drug employed for their manipulation became exhausted, whilst the price of all forms of the crude drug doubled and trebled. We know of single orders from London for one thousand pounds, each color of Euonymin, quick delivery. From 1885 to 1890 the English Euonymin craze was at its height, and during those years the English pharmaceutical and medical press teemed with articles concerning the wonderful remedy! The various Euonymins were examined for ash, and the old question of inorganic admixture was naturally revived, especially with the green-colored drug, where aluminum hydroxide is likely to be employed to precipitate the chlorophyll-bearing structures and associated materials from the evaporated alcohol extract, said hydroxide contaminating the product. (See Note C, p. 49). It was even reported that one lot of Euonymin contained much barium carbonate, a statement difficult to accept!

Numerous were the questionings and explanations naturally asked and offered, but in it all no one apparently thought to refer to Eclectic literature of the past, where, half a century before, the whole subject of the alkaloids, resins, resinoids, and concentrations, in all its phases, had been discussed in detail, and thrashed out to a finish. So it was that history *unnecessarily* (as is too often the case with people who read only their own literature) repeated itself, events in England, but on a smaller scale, following in nearly the track of the old alkaloidal-resinoidal-concentration epoch in America.

As abruptly as it began did the English concentration fad terminate, leaving but a few energetic resinoids, such as King's Resin of Podophyllum (representative of the class), still used in England, as it is both used as well as abused to-day, in all parts of the civilized world, as is shown in current pharmaceutical and therapeutical literature. (See Lloyd Brothers' Drug Treatise No. XX.)

* Dr. Richardson is noted also as having "discovered" the value of the old Eclectic remedy, *Gelsemium*, long after it was established and in great use in that school. But he added nothing new to its therapeutic applications.

EDWARD S. WAYNE, M. D.

Professor Edward S. Wayne was of Quaker origin. He was born in Philadelphia in 1818, and in his early years was apprenticed to the drug firm of Frederick Klett & Co., Second and Callowhill Streets. Here he became proficient not only as a chemist, but as a mechanical engineer, and while a mere boy superintended the erection of a white lead factory, of which he had the charge for some years. With this firm he remained until 1844, when they opened a branch house in Cincinnati, under the name of Wayne and Fiedt. After several years Professor Wayne became chemist with the firm of Suire, Bokstein & Co., Fourth & Vine Streets, and on the death of Mr. Suire he transferred his services to J. S. Burdall & Co., with whom he remained for some years. He then conducted an analytical laboratory on Fifth Street, where he remained until his health failed, when he returned to Philadelphia, dying in that city December 11, 1885.

During his eventful business career, Professor Wayne was no less active in connected directions. He was awarded a degree by the Ohio Medical College, serving therein as Professor of Chemistry, and becoming an authority with the medical profession, as well as in all things pertaining to pharmacy. He was active in the organization of the Cincinnati College of Pharmacy, holding the chair of Chemistry therein until a year or so before his death, when his failing health led him to resign this for a position in the State Board of Pharmacy, to which he was appointed on its organization by Governor Hoadley, having served as an Examiner, preceding that date, under the special law applying to Cincinnati.

Professor Wayne was an accomplished scholar, reading and speaking German fluently, and he mingled freely with the most cultivated circles of Cincinnati. He was an easy writer, and, between 1855 and 1870, contributed numerous papers to the American Journal of Pharmacy, and to the American Pharmaceutical Association, the titles of these being recorded in these publications, among them being one on "The Gissard of the South American Ostrich," from which he first showed that a preparation thus obtained could be used as a remedy for dyspepsia. In 1860, when Nicholas Longworth became enthusiastic over the possibility of the Ohio hillsides becoming a national source of grape and wine culture, Professor Wayne united with him, and instituted experiments for making therefrom cream of tartar and tartaric acid. He actively engaged in assaying minerals, and showed that a quicksilver mine in North Carolina yielded 150 pounds of mercury to the ton. He was also the originator of a preparation well known as "Wayne's Diuretic," which was very extensively prescribed.

During the early days he was one of the first to manufacture coal oil from bituminous coal, a business that was wrecked on the opening of the kerosene fields.

Thus he passed his time in assaying, in corresponding, and in lecturing on subjects connected with chemistry and pharmacy, and naturally his attention was attracted to the Eclectic materia medica, in which he took especial interest, being much concerned in the efforts of the Eclectics in those directions, as is shown by the record made in the present Bulletin.

I remember Professor Wayne as one of my early friends, who became much interested in my early efforts in pharmacy, and who, on my account, was much disturbed when, neglecting opportunities in the dominant school of medicine, I began my special work with the Eclectics. I remember Professor Wayne as a medium-sized gentleman of charming personality, easy in manner and a ready conversationalist, exceedingly neat and up-to-date in dress, even to the verge of being dandified. His work as an educator brought him into contact with the young, with whom he was always a favorite, by reason of his delightfully pleasant address, his unquestioned knowledge, his invariable courtesy to all, and his helpful encouragement. From his store of knowledge his students profited, and to him they went as a friend and a close adviser.

To sum up, Professor Edward S. Wayne spent his life in educational work and in contributing to whatever helped mankind in his field of labor. He died loved and honored by one and all who knew him.



E. S. Wayne

THE ECLECTIC ALKALOIDS.

The Lesson. — Comes now the lesson taught by the half century of turmoil in and among the alkaloids, resins, resinoids, and oleo-resins. Shattered ambitions, blasted hopes, disappointments generally, have their uses. The resinoid craze is not an exception, for it has already served several purposes, one being the establishing of the fact that in only a few North American drugs are found either alkaloids or resins of great individual merit, another being the dispelling of the illusion that a fragment can parallel the whole, if the whole be intelligently comprehended. Eclectic physicians learned from an experience not easily forgotten the lesson that

Dried Fragments of Drugs are not Representatives of Drugs.—An experience of more than three decades, commencing in a craze for energetic, or even poisonous, proximate principles, had, as already related, taught Eclectic physicians to their own satisfaction that a toxic constituent or a mixture of the separated dried products broken out of a drug by chemical means or created from drugs by the chemist's art, useful though each might be in its own sphere, did not typify or parallel the therapeutic qualities of the whole drug. They had learned by bitter experience that a poisonous fragment or ultimate, broken out of or created from a plant by chemistry, did not represent the therapeutic qualities of the structure from which it was derived. The once prevailing hope that a single, dominating constituent, or ultimate, or a definite substance present in, or obtained from a drug, could be taken to standardize the desirable therapeutic qualities of the combined medicinal parts of a plant complexity, also passed away. In the latter days of King and Newton, and in the coming prime of Scudder's efforts, heroic doses of shock-producing remedies became exceptions in the practice of Eclectics. The administration of violent ultimates and large doses to shock the system, even as regards active cathartics (now most discreetly used, when used at all, in Eclectic medication), gave way to kindlier methods. The doctrine of humanity to the disease-weakened sufferer, not brutality to the helpless, once more revived and became not merely ideals in theory, but logical facts in a successful practice. The original Eclectic motto, "*Vires Vitales Sustinete*" (Sustain the vital forces), so often lost to view by some people involved in the fallacy of the nineteenth century alkaloidal-resinoidal ultimates, became, as in the days of the fathers, a legitimate Eclectic watchword. By a final, natural *evolution* the school, after facing disaster, passed safely through the crisis of the alkaloidal-resinoidal craze of the sixties in the century that has passed.

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The Present.—At present, instead of overdoses of toxic ultimates, the trend in Eclecticism is toward greater questioning and conservatism than ever concerning vicious or possibly harmful medication. The old-time "Concentrations" have most of them been long since abandoned, displaced, or discredited as undesirable types of remedial agents. No longer are they sought as though they represented complex drugs. Small doses of kindly remedies, established by clinical study in disease, administered for curative action, not systemic shock, now universally prevail. The non-poisonous remedies, made of innocuous drugs, are now sought and are administered with a degree of therapeutic satisfaction unknown in past heroic dosage. Substances energetic or toxic, when used, are employed most cautiously and conservatively; small doses often repeated being the rule. The resins and alkaloidal salts of old, such as the sanguinarine compounds, are sometimes, but not often, prescribed; when prescribed, being in minute doses. Drug representatives such as plant textures and complexities, the poisonous constituents of which were considered as the standards of curative qualities by Eclectic pharmacists fifty years ago, and accepted as such by Eclectic physicians in the day of past evolution, are no longer therapeutic favorites, unless they are partially, or even wholly, freed from their toxic constituents. Such as opium and morphine were never Eclectic favorites, and now are most tenderly employed when employed at all, while the favorite Eclectic form of *nux vomica* is now a liquid preparation, in which strychnine is in minor proportion to other constituents. Thus the Eclectic methods of medication and the Eclectic remedies are, to-day, in marked contrast to those demanded under the ideas that yet prevail among physicians who believe that a remedy must be standardized in therapy from the toxic or physiological side, or who accept that therapeutic usefulness is in proportion to the poisonous viciousness of a drug. So great has been the advance among Eclectics in this direction that, as already intimated, even the preparation *Resin of Podophyllum*, once exclusively Eclectic, and originally employed as a drastic cathartic, has passed almost completely from Eclecticism into the practice of physicians of opposite ideals from those now prevailing in the school of its discoverer.* Concerning the revolution the half century has wrought in the therapy of the energetics once so freely used in Eclectic practice, among which *Resin of Podophyllum* was typical, Professor Felter, in

* In our opinion, the rank and file of the dominant school are not so firmly bound to the *poison or shock* treatment as a few imagine who think they speak for the profession, and are enthusiastic in that direction. We have reason to believe that, unless there be a change in the methods employed, a revolution will yet come in their ranks, as it did in Eclecticism.

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the *Eclectic Medical Journal*, July, 1909, thus tersely expresses the facts:

So long as men will blindly follow the text-book statements of the regular *materia medica* that bryonia is only a drastic cathartic, and may be used for its derivative effect in dropsy, so long will they remain in ignorance of the true medicinal action of a remedy that many thousands of so-called "irregulars" are using daily, in small doses, with the most potent and beneficial effect. Perhaps no remedy illustrates the value of small dosage better than bryonia. With a wide and direct action in a variety of diseased conditions of the serous membranes and the nervous system when so given, it has in the large and drastic physiologic doses absolutely no place in medicine. When such drastic, purgative action is desired in dropsy by those who accord to it such virtues, it is passed by for other less unpleasant hydragogues. So in the large dose bryonia may be said to have no place in therapeutics. But in the small dose—how promptly it allays distress in pleuritic pain, in frontal headache, in the early stage of pneumonia, and in the milder forms of non-septic peritonitis. Few Eclectics would dispense with bryonia, and they always use it in the fractional dose.

Colocynth is another remedy of the same class. If the dose be large, gastro-intestinal inflammation is invited. If the fractional doses be exhibited, it allays irritation, prevents inflammation, and acts with marvelous precision in dysentery and allied conditions, when accompanied by sharp-cutting, colicky pains.

Ipecac was long ago recognized as having a dual action—in the large dose, emetic, and many times desirable; in the small dose, the best of anti-emetics and a remedy of supreme value in allaying gastro-intestinal irritation and inflammation. Yet, knowing and acknowledging the dual emetic and anti-emetic action of this drug in its different doses, the physicians who first made these discoveries let them rest without similar investigation concerning other equally potent drugs. Worse than this, they have refused to accept, or have chosen to ignore, the work of those who have made such investigations, which have incalculably enriched therapeutics. *Podophyllum* and its resinoid are now seldom employed in physiologic doses by Eclectic physicians, but as remedies, in small doses, to gently stimulate intestinal secretions, they have grown steadily in favor.

Retrospective.—We have thus briefly referred to incidents and events connected with the discovery and introduction of the "Concentrations," as well as to the passing out of the substances that, as a fad or craze, more than half a century ago, came perilously near disrupting the Eclectic school in medicine.

Out of it all came the introduction of a few resins and a few alkaloidal salts of American plants, but yet these few, introduced into the Eclectic school over half a century ago, comprise all, of any importance whatever, that are to-day used by any class of physicians.* In this connection, to close this chapter, we can well introduce the translation from a French publication of an article by the talented scholar, Dr.

* Strange that in a flora of over 12,000 species this should be true. On this phase of the subject we shall write more fully hereafter. (See page 47.)

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Charles Rice, chairman, for three decades, of the Committee of Revision of the Pharmacopœia of the United States:

The Eclectics form a class of physicians who reject the use of a large number of remedies of mineral origin, and particularly of all mercurial compounds, and replace them by vegetable remedies, chosen as much as possible from among indigenous plants. It is certain that the persevering and careful study that the adherents of this school have made of the action of several American plants has been very profitable to medicine in general. The regular profession never hesitate to make use of the truly useful among those discovered, whoever be the authors, but the system is very justly repudiated by the medical profession, because it is based upon a dogma. Many plants of which the Eclectics alone first availed themselves have ended by becoming the common property of the entire medical profession; every practitioner has, and ought to have, the inalienable right of employing every therapeutical agent, provided it be not a patented or secret preparation, which he considers useful to his patient, whether the pharmacopœia has adopted it or not. But from the moment that a preparation is presented under the character of a special remedy, when its formula is unknown and kept secret, in such a manner that its preparation is monopolized by a particular firm or its composition can not be controlled by every pharmacist or physician, it should be proscribed. But such is not the case with the Eclectic preparations. Although I, like the majority of pharmacists and physicians, am not in accord with the Eclectics, from the standpoint of their theories, I must recognize the fact that they do not surround themselves with mystery; like the homœopaths, they have their pharmacopœia, represented by the following work: "The American Dispensatory," by John King, M. D., 8th edition, Cincinnati, 1878.

Whatever opinion one may have regarding the ideas defended in this book, one can not but discover that it constitutes a precious encyclopedia of medical American plants, and their therapeutical uses. It is a very useful work for reference. Its author is as fine a botanist as a judicial observer of therapeutical effects.*—*Translation of pages 9 and 10 of Dr. Charles Rice's "Note sur Certains Médicaments Végétaux Américains."*

This treatise would not be complete as a historical record unless the position these substances occupy now were included. We therefore give, in the following pages, Lloyd Brothers' recent prices current with notes that we believe will fairly close the subject.

*To this we will add that the ideals and the efforts of the Eclectic profession were very highly appreciated by Dr. Rice in his latter days, as this writer can authoritatively testify.

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COMMERCIAL CONCENTRATIONS OF 1910. (ALKALOIDS, RESINS, OLEO-RESINS AND RESINOIDS.) (From Lloyd Brothers' Prices Current, Cincinnati, 1909.)

Notwithstanding the aforementioned remarkable record, some of the concentrations are still used in considerable amounts in legitimate therapy, as well as by private formula compounders. Many physicians employ established formulas containing them, while others use them singly or in favorite prescriptions, as occasion suggests. Old works on therapeutics carry them in many compounds still desired by some physicians who read after the old authors, whilst the makers of pills and tablets for home cure of disease, proprietary medicine makers of popular cathartics, etc., etc., employ such substances as podophyllin in immense amounts. Probably no substance, not excepting jalap, is more vital to the makers of cathartic proprietaries than is "Podophyllin." For this reason manufacturers of such plant preparations continue supplying the "Concentrations" to such physicians and mixers of medicines as yet employ them. The aforementioned explanations, and the statements that follow, especially the brief notes after the two lists offered (pages 47-53) are sufficient to introduce and permit of intelligent comment on the items in the prices current. Especially do we commend to the reader's attention the remarks and the notes that follow the lists (selected because they are of recent revision), which are essential to the historical completeness of this Bulletin.

TABLE OF CONCENTRATIONS. (With Notes.) INCLUDING "RESINOIDS," ALKALOIDS, ALKALOIDAL SALTS, ETC.

(For explanation of reference letters A, B, C, etc., see Notes pp. 49-50.)

	Price per ounce. Bottle included.		Price per ounce. Bottle included.
Aletrin	A, \$0 50	Cerasin, (Prunin)	A, \$0 60
(from Aletris farinosa)		(from Prunus virginiana)	
Alnuin	A, 60	Chelonin	A, 1 00
(from Alnus serrulata)		(from Chelone glabra)	
Ampelopsin	A, 65	Chimaphilin	A, 80
(from Ampelopsis quinque- folia)		(from Chimaphila corym- bosa)	
Apocynin	A, 1 00	Chionanthin	A, 1 00
(from Apocynum cannabi- num)		(from Chionanthus virgini- cus)	
Asclepinin	A, 80	Cimicifugin (Macrotin) B, ...	50
(from Asclepias tuberosa)		(from Cimicifuga racemosa)	
Baptisin	A, 80	Collinsonin	A, 1 00
(from Baptisia tinctoria)		(from Collinsonia canad- ensis)	
Barosmin	A, 80	Colocynthin	A, 1 00
(from Barosma crenata)		(from Citrullus colocynthis)	
Betulin	A, 1 60	Cornin	A, 60
(from Betula alba)		(from Cornus florida)	
Caulophyllin	A, 50	Corydalin	A, 1 00
(from Caulophyllum thalic- troides)		(from Corydalis formosa)	

THE ECLECTIC ALKALOIDS.

	Price per ounce. Bottle included.		Price per ounce. Bottle included.
Cyripedin .....A,	\$1 00	Leptandrin .....A,	\$0 40
(from <i>Cypripedium pubescens</i>)		(from <i>Leptandra virginica</i>)	
Dioscorin .....A,	1 00	Liatrin .....A,	80
(from <i>Dioscorea villosa</i>)		(from <i>Liatris spicata</i>)	
Euonymin, Green ....C,	1 10	Liriodendrin .....A,	1 00
(from <i>Euonymus atropurpureus</i>)		(from <i>Liriodendron tulipifera</i>)	
Euonymin, Brown .....A,	1 10	Lobelin .....A,	1 20
(from <i>Euonymus atropurpureus</i>)		(from <i>Lobelia inflata</i>)	
Eupatorin .....A,	60	(not the alkaloid Lobeline)	
(from <i>Eupatorium perfoliatum</i>)		Lycopin .....A,	60
Euphorbin .....A,	1 60	(from <i>Lycopus virginicus</i>)	
(from <i>Euphorbia corollata</i>)		Macrocin (Cimicifugin), B,	30
Eupurpurin .....A,	60	(from <i>Macrotya</i> [Cimicifuga] <i>racemosa</i>)	
(from <i>Eupatorium purpureum</i>)		Menispermmin .....A,	60
Eryngin .....A,	1 00	(from <i>Menispermum canadense</i>)	
(from <i>Eryngium aquaticum</i>)		Myrcin .....A,	60
Fraserin .....A,	60	(from <i>Myrica acris</i>)	
(from <i>Fraseria walteri</i>)		Phytolaccin .....A,	80
Gelsemin .....A,	1 50	(from <i>Phytolacca decandra</i>)	
(from <i>Gelsemium sempervirens</i>)		Podophyllin, Brown ....G,	40
Geranin .....A,	60	(from <i>Podophyllum peltatum</i>)	
(from <i>Geranium maculatum</i>)		Podophyllin, Yellow ....H,	40
Gossypin .....A,	1 50	(from <i>Podophyllum peltatum</i>)	
(from <i>Gossypium herbaceum</i>)		Populin .....A,	40
Hamamelin .....A,	60	(from <i>Populus tremuloides</i>)	
(from <i>Hamamelis virginiana</i>)		Prunin (Cerasin) .....A,	60
Helonin .....A,	1 50	(from <i>Prunus virginiana</i>)	
(from <i>Helonias dioica</i>)		Ptelein .....A,	1 20
Humulin .....A,	90	(from <i>Ptelea trifoliata</i>)	
(from <i>Humulus lupulus</i>)		Rhein .....A,	2 00
Hydrastine (Berberine) Yellow Alkaloid ....D,	6 00	(from <i>Rheum officinalis</i>)	
Hydrastine (Berberine) Citrate .....D,	6 00	Rhusin .....A,	60
Hydrastine (Berberine) Muriate .....D,	5 00	(from <i>Rhus glabra</i>)	
Hydrastine (Berberine) Nitrate .....D,	6 00	Rumicin .....A,	60
Hydrastine (Berberine) Phosphate .....D,	6 00	(from <i>Rumex crispus</i>)	
Hydrastine (Berberine) Salicylate .....D,	7 00	Sanguinarine Nitrate ....I,	3 00
Hydrastine (Berberine) Sulphate .....D,	5 00	Sanguinarine Sulphate ....I,	3 00
Hydrastine, Principles Combined .....DA,	2 50	Sanguinarine Principles Combined .....J,	65
(from <i>Hydrastis Canadensis</i>)		(from <i>Sanguinaria canadensis</i>)	
Inulin .....E,	80	Scutellarin .....A,	1 00
(from <i>Inula helenium</i>)		(from <i>Scutellaria lateriflora</i>)	
Irisin .....E,	60	Senecin .....A,	1 00
(from <i>Iris versicolor</i>)		(from <i>Senecio aureus</i>)	
Jalapin (Resin of Jalap), F,	90	Smilacin .....A,	1 60
(from <i>Ipomoea jalapa</i>)		(from <i>Smilax officinalis</i>)	
Juglandin .....A,	60	Stillingin .....A,	1 00
(from <i>Juglans cinerea</i>)		(from <i>Stillingia sylvatica</i>)	
		Taraxin .....A,	1 00
		(from <i>Taraxicum</i>)	
		Trillin .....A,	60
		(from <i>Trillium erectum</i>)	
		Viburnin .....A,	1 00
		(from <i>Viburnum opulus</i>)	
		Xanthoxylin .....K,	1 00
		(from <i>Xanthoxylum fraxineum</i>)	

THE ECLECTIC ALKALOIDS.

REMARKS AND NOTES.

Alkaloids.—Only five North American plants established in therapy yield alkaloids in any considerable amount, viz.: *Sanguinaria*, *Hydrastis*, *Gelsemium*, *Veratrum*, and *Lobelia*.^{*} Of these the alkaloids of two only, the old Eclectic *Sanguinaria* and *Hydrastis*, have ever been much valued in medicine, and these it is now known but imperfectly represent the drugs yielding them.† All the American alkaloids now employed to any extent were introduced into Eclecticism the first half of the nineteenth century.‡ To the early uses of these old alkaloidal salts nothing of importance has been added in therapeutical directions, as can be seen by a study of the past record, and contrasting it with the commended uses of the present.

Nomenclature.—We terminate the name of the *alkaloids only* with the syllable *ine*, applying the termination *in* to such indifferent substances as resins, glucosids, etc. We thus differentiate the alkaloids of the list from the members of other classes, and designate them so plainly that no confusion concerning their scientific nomenclature can exist in the mind of an intelligent reader. Let it be therefore understood that substances in the preceding list that do not in name terminate with the syllable *ine* are *not alkaloids*.

Resins.—(Listed B, F, and G.) Of the legitimate drug resins, three only—resins of *macrotys*, *jalap*, and *podophyllum*—are of enough importance to merit an established position in therapy. The semi-resinous products (oleo-resins, akin to oils rather than resins) of such drugs as *aletris* and *iris* have long passed into disuse, in favor of more eligible and more representative liquid products of the drugs yielding them. *Scammony* has never been in the Eclectic list. (See tables, pages 30, 40, and 47-8, and the accompanying notes.) We terminate the names of the resins and other indifferent substances with the syllable *in*.

Oleo-Resins.—In the day of the popularity of the “resinoids” it was discovered that a few substances, more or less related, partook of

^{*}This appears remarkable. See Note, page 43.

†About 1885 Dr. Roberts Bartholow investigated *lobeline* (as made by us), physiologically and therapeutically. It failed to equal the hopes and expectations of physicians employing *lobelia*, and naturally came into neglect. See *Drugs and Medicines of North America*, 1885, Vol. II, pages 89-91.

‡The white alkaloid *Hydrastine* may be excluded. It has no place in Eclectic therapy, and is perhaps the most objectionable constituent of the drug. It is a poison (see Bartholow's physiological investigations, *Drugs and Medicines of North America*, 1885, and Bulletin of Lloyd Library, No. 10, pages 156-161), and for that reason perhaps is taken as a standard of excellence by some physiologists. *Hydrastine* appeals to heroic medicationists, and in the United States Pharmacopœia is taken as the standard of excellence. However, the most popular (with physicians) of all preparations of *hydrastis* (Lloyd's *Hydrastis*) has contained for over a decade only a very small amount of this alkaloid, and is to be preferred (as shown by experienced investigation) if it contain *none at all*.

THE ECLECTIC ALKALOIDS.

the nature of oils and refused to dry. An attempt was largely made to classify these and distinguish them by the affix *din*, and to supply them in liquid form. Thus, in old Prices Current and lists of Concentrations will be found such names as *Iridin*, *Pteleidin*, *Asclepidin*, and a few others. This nomenclature did not, however, prevail. These oleo-resins were never popular, and soon dropped from sight. They are, however, included in our list (pages 52 and 53), and are therein properly designated as *Oleo-resins*.

Unclassified Concentrations.—(Marked *A* in the list.) Such terms as *apocynin*, *gossypin*, *caulophyllin*, *cyripedin*, *phytolaccin*, *scutellarin*, *euonymin*, *ergotin*, etc., etc., comprise the majority of items that have no position in any scheme of scientific chemical classification. They are neither alkaloids, glucosids, resins, acids, nor anything else definite, and we contend now, as heretofore, that (regardless of therapeutic values) it is a misnomer to apply to such substances a systematic name carrying an established, scientific termination. Such preparations as these, notwithstanding the protest of the Eclectic authorities, were, however, introduced as "Concentrations" in the early history of American medicine, and were, as previously stated, included among the "*Eclectic Alkaloids, Resins, and Resinoids*." Their names, made of the respective plant titles, were terminated with *in*.

It does not necessarily follow, however, that such substances as these are altogether useless in therapy or innocent in action. Many of the incongruous preparations associated under the foregoing titles carry more or less of the drug qualities of the plants from which they are made, whilst some that stand without the semblance of a scientific formula are very energetic. In this connection we will add that a dried extract of *nux vomica* or of *hyoscyamus* does not lose its power to kill by reason of the fact that it is mislabeled. Nor does such a substance as the old Eclectic "Concentration" *colocynthin*, that has no scientific home or rational name, by reason of its faulty title fail to act as an active physic. On the other hand, a material capable of a definite formula may be of no significance whatever, therapeutically. Genistic acid, from gentian, while properly named, is of no known use, nor has crystalline xanthoxylin any established value.

With these remarks we introduce the following explanatory notes:

NOTES TO LIST OF CONCENTRATIONS, ALKALOIDS, ETC.

(Pages 45, 46.)

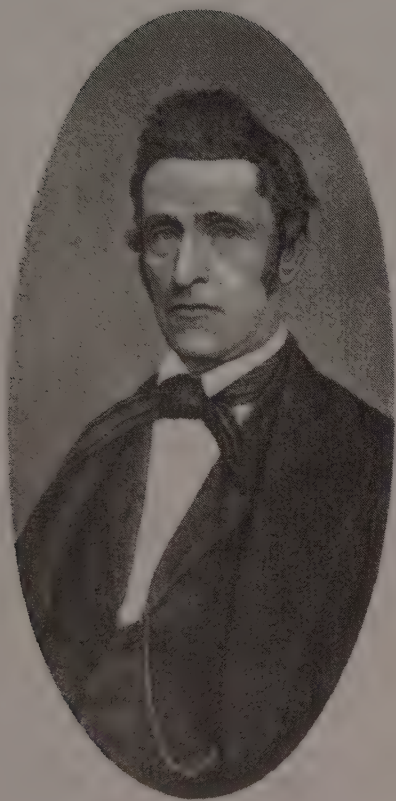
A. Products thus marked are not definite compounds, nor do they accord with or permit of any scientific chemical nomenclature. They were introduced in the early days of American medicine, and were originally known as "Eclectic

CALVIN NEWTON, M. D.

Calvin Newton, A. M., M. D., was born in Southborough, Mass., November 24, 1800, and died August 9, 1853. He received a common school education, including a preparatory course at Framingham Academy, which enabled him, in 1820, to enter Brown University. His studies were interrupted by financial disturbances and by the death of his father, but after completing his Junior year in this institution, he went to Union College, from which he graduated in 1829, receiving his A. M. degree in 1829. He studied for the ministry at Newton Theological Seminary, and in 1832, after serving a pastorate at Bellingham, was elected Professor of Rhetoric and Hebrew in Waterville College, Maine. He studied medicine in Cambridge University, and the Berkshire Medical Society, from which latter he graduated, being admitted into the Massachusetts Medical Society, and commencing practice in Worcester. Deprecating the "Regular," or "Allopathic" methods of those days, he became a co-laborer with Samuel Thomson, opposing, however, his methods of introducing his practice, for which reason, although engaged in botanic practice as a "Reformer," he did not affiliate with Thomson or his people. In 1846 he began publishing his "New England Medical Eclectic and Guide to Health." Being ostracized by his Regular associates, he obtained from the Massachusetts Legislature a charter for the Worcester Medical Institute, from which graduated the noted surgeon, Professor Andrew Jackson Howe, M. D.

Dr. Newton naturally became connected with the Eclectic school of medicine, and was made president of the National, at Rochester, 1852. Becoming a professor in the Syracuse Medical College, (Reform), he began to issue text-books, a one-volume work of thoracic diseases being published after his death by Dr. Marshall Calkins.

Dr. Calvin Newton was, to use the words of Professor Felter, (see Eclectic Medical Gleaner, January, 1910), "honest, frank, open-hearted, and unsuspecting." He made enduring friendships, and was well thought of by his fellow citizens, who elected him to many positions of trust. He must not be confused with Professor E. S. Newton, or with Dr. O. E. Newton, (brothers), both of whom were (see biography of E. S. Newton, M. D., this Bulletin) active workers in the direction of medical reform.



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THE ECLECTIC ALKALOIDS.

Resinoids," but were never advocated by such Eclectic authorities as King and Scudder. They more properly belong with the "Powdered Extracts," but each item must necessarily be made by processes peculiar to itself.

B. This, known under the two names, "Cimicifugin" and "Macrotin," is a dried, resinous precipitate (*not a true resin*), from *Macrotys* (*Cimicifuga*). It was discovered by Dr. John King about 1835 (see history, p. 9), and introduced by him into general medicine about 1845. It is possessed of energetic qualities and needs to be carefully administered. Overdoses produce violent headaches.

C. This is a precipitate from a strong alcoholic extract of *Euonymus* (*Wahoo*), by means of sodium carbonate and alum solutions. It carries an excess of alumina, as do the other "Green Resinoids," when made by this (the original) process. In 1885 it came into English use, by reason of the reports of Dr. Richardson, of London. (See page 40.)

D. These are alkaloidal salts of the *yellow alkaloid* of *Hydrastis*, known to physicians of the present day both as *Hydrastine* and as *Berberine*. This very widely disseminated alkaloid was introduced into Eclecticism and established under the proper and rational name *Hydrastine*, long before the name *Berberine* was applied to it in any medical print. We therefore continue to recognize the name *Hydrastine*, primarily, in our lists and on our label, because it is, historically as well as by priority, the proper name, as well as because it is still the title used by the majority of physicians employing compounds of this yellow alkaloid. (See Lloyd Brothers' Drug Treatise No. XXIII, page 9.)

DA. The substance known for over fifty years as "*Hydrastine Principles Combined*," was the first "resinoid" of this drug. It carries much foreign material, such as the acrid resin and other peculiar proximate principles of *Hydrastis canadensis*. The name originated when the term "resin" was all potent. This preparation is generally used when simply "Yellow Hydrastine" is prescribed, and has been sent by us to our patrons for many decades when simply "*Hydrastine*," or "*Hydrastine P. C.*" is ordered.

As a remedy for internal administration, where it is not necessary to employ a solution, we consider the "*Principles Combined*" as preferable to any single alkaloidal salt of the drug, mainly because in the experience of physicians in whose judgment we confide it is a better representative of the desirable constituents of *Hydrastis* than is any single drug product of this plant, and because it carries but little of the poisonous white alkaloid.

We consider the *white alkaloid*, ("*Hydrastine*," so-called), too violent to dominate any *Hydrastis* preparation, and for this reason we exclude it, largely, from our "*Principles Combined*." We consider it harmful, if in excess, in any established field of *Hydrastis* therapy, and we believe it should be totally excluded from all preparations intended as soothing applications, or as tonics in disturbances of the stomach.

E. This is not the oleo-resin of *Iris*, which, introduced and used under the name *Iridin*, (see page 52), over half a century ago, is now obsolete. (See "*Oleo-Resins*," pages 50-53.)

F. Resin of *Jalap*, in the early days of the Eclectic Alkaloidal-Resinoidal-Concentration excitement, was called *Jalapin*. The name is perhaps subject to criticism, but for obvious reasons, (see page 8), it is retained in our list.

G. The genuine, dark-colored Resin of *Podophyllum*, now official in the Pharmacopœia of the United States, is the same as that made in 1835 by its

OLEO-RESINS AND OILS BY ETHER.

discoverer, Professor John King, M. D., and named by him, "Resin of Podophyllum." It was also the first of the line afterwards known as "Resinoids." (See page 7, etc.) The reputation of "Podophyllin," the commercial name of the drug, was established on the use of this article.

H. "Podophyllin" of a yellow color is an alum lake, produced by means of alum or other chemicals. For apparent reasons, (commercial), that need not be stated, it once dominated the "Podophyllin" drug trade of America. Yellow Podophyllin is uncertain in its action, and is very griping. We neither make it, nor supply it. (See Lloyd Library Bulletin No. XII.)

I. These alkaloidal salts of *Sanguinaria* carry in acid combination the impure (mixed) alkaloids of the drug, for the root of *Sanguinaria canadensis* contains two or more alkaloids that are closely related to each other and have been used in natural association from the date of their introduction. These alkaloids are white, but with acids they form very acrid salts, all of which have a red color. They should be used cautiously.

J. The preparation used under the name "*Sanguinarine Principes Combined*" is a complicated form of the alkaloid, being a precipitated mixture of crude, alkaloidal compounds, resins, and other products of *Sanguinaria*. It is a powder having a buff or bluish-gray color, which changes to red when moistened with a sour acid. The *Sanguinaria* alkaloids and all their salts are exceedingly irritating to mucous membranes, and the inhalations of their dust are to be avoided as much as possible.

K. The bark of *Xanthoxylum* (*Xanthoxylum americanum*) contains a white crystalline glucosid of no ascertained medicinal value. The old-style "concentration" furnished under the name "Xanthoxylin" has been employed by physicians of repute for over half a century. It contains other principles of the bark, together with the aforementioned glucosid, *Xanthoxylum*, which, in our opinion, as already stated, is not of importance.

OLEO-RESINS AND OILS BY ETHER.

These preparations are intimately connected with the concentrations, as also were the persons concerned in their introduction and manufacture.

Professor John King was a fluent French scholar. He read all the French publications, and kept up everything in the line of French pharmacy and chemistry. Naturally, therefore, he caught the advancement that was being made in France in these directions, and be it known, France, in the beginning of the last century, seemed to take the lead. Consequently, when King became interested in progressive medicine, his knowledge in these directions was most useful to him, and after he stumbled on to resin of podophyllum, in 1835, he turned his attention to pharmaceutical manipulation, on both a small and a large scale, but he did not offer any products therefrom in commerce, utilizing them in his own practice. He discovered oleo-resin of iris

OLEO-RESINS AND OILS BY ETHER.

very soon after he discovered the resin of phodophyllum, and the resin of cimicifuga, these three drugs being for a long time three of King's favorite remedies. (See preceding history.)

Then, about 1845, when the Eclectic craze for resins, or rather resinoids, was taking their care, King became associated in Cincinnati with the Eclectic Medical Institute, and threw the influence of his opportunities and knowledge into the Eclectic field.

About that time, (1846), after the Eclectic oleo-resins had been introduced, Professor Proctor translated from the *Pratique des Chimie*, for the *American Journal of Pharmacy* an article on "Ether Extraction in the Making of Oleo-Resinous Extract of Cubebs," and in 1849 read a paper before the American Pharmaceutical Association, on the "Etherial Oleo-Resins." This was their first practical introduction to the American profession outside of Eclecticism.

The Eclectic oleo-resins and vegetable oils had, at that date, however, been well established in the practice of the Eclectic physicians, and there was an increasing demand for them, in connection with the concentrations, previously described in our publication. In 1859 Professor Proctor further reported to the American Pharmaceutical Association "Formulæ for Fluid Extracts," among which he included ten oleo-resins, and upon these were based the line of oleo-resins introduced into the Pharmacopœia of the United States in 1863. The record may be summarized as follows:

The Pharmacopœia of 1850, appearing in 1853, included among the Fluid Extracts two oleo-resins, *capsicum* and *black pepper*, neither of which were then used in Eclectic medicine. In 1863, the Pharmacopœia introduced other oleo-resins, some of which had been employed in Eclectic medicine for at least two decades. Excepting these, and the oleo-resin of *male fern*, none of these Pharmacopœial oleo-resins came into general use.

This brief summary will introduce the plant preparations known as the Eclectic Medicinal Oils, *Oils by Ether*,* and *Oleo-Resins*, concerning which the prices current of Lloyd Brothers gives the most copious notes and comments. From it we reproduce as follows:

"They are complicated and often very concentrated solutions of energetic principles of the plants yielding them, but are not distillates, such as are the Essential Oils. A few, such as Oil of Lobelia, Oil of Stillingia, and Stillingia Liniment (which we include in the list), are very popular, and justly so, because they

* Oils by Ether are made by extracting drugs by means of Sulphuric Ether, which, by evaporation, leaves a fixed oil and other ether-soluble products. An *Ethereal Oil* is a volatile or essential oil, obtained usually by distillation.

OLEO-RESINS AND OILS BY ETHER.

are very useful and have been long established as remedial agents. Others, such as Iridin and Pteledin (marked A), are obsolete Eclectic oleo-resins made after the method of preparing Resin of Podophyllum. They are mixtures of vegetable oils, resins, chlorophyl, and dissolved substances, the oleo-resins predominating. Oil of Male Fern, a European preparation akin to the oleo-resins, is included in the list, as is also the invaluable old, standard, Stillingia Liniment.

TABLE OF OLEO-RESINS AND OILS BY ETHER.

		With Names.	
	Prices per ounce.		Prices per ounce.
Aletredin (Oleo-Resin) ..A, ..	\$0 75	Oil Capsicum	B, .. \$0 60
(from Aletris farinosa)		(from Capsicum annum)	
Asclepedin (Oleo-Resin) ..A, ..	75	Oil Lobelia	C, .. 90
(from Asclepias tuberosa)		(from Lobelia inflata)	
Eupurpurin (Oleo-Resin) .A, ..	75	Oil Male Fern	25
(from Eupatorium purpureum)		(from Male Fern, Dryopteris filix-mas)	
Heledin (Oleo-Resin).....A, ..	75	Oil Stillingia	D, .. 80
(from Helonias dioica)		(from Stillingia sylvatica)	
Iridin (Oleo-Resin).....A, ..	75	Stillingia Liniment	E, .. 25
(from Iris versicolor)			

NOTES ON OILS AND OLEO-RESINS.

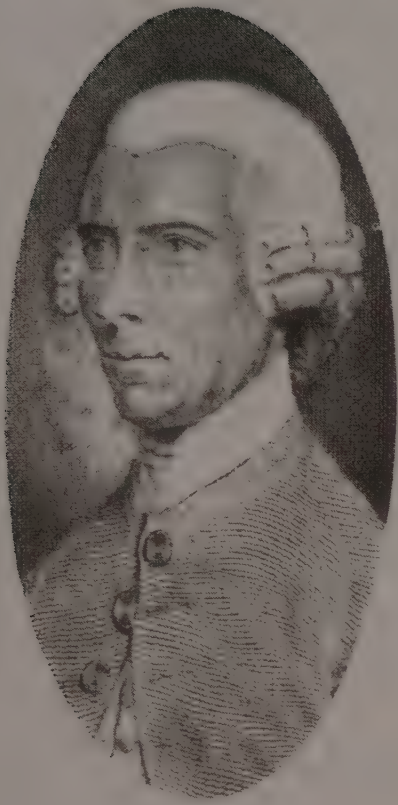
A. These are natural mixtures of fixed oils and resins in which are dissolved characteristic principles of the drugs from which they are obtained. The paragraph introducing them (pages 50 and 51), together with other preceding references, is self-explanatory.

B. Oil of Capsicum. (*Am. Disp.*)—This is a very powerful preparation and must be very carefully employed. It is an active stimulant and may be added to liniments, poultices, etc., whenever excessive stimulation or rubefaction is desired. It is too active for use as an internal remedy, except in very small doses, not in excess of one drop, and then should be largely diluted with syrup. A similar preparation is official in the United States Pharmacopœia under the name Oleoresin Capsicum.

C. Oil of Lobelia.—"One drop of the oil triturated with one scruple of sugar, and divided into from six to twelve doses, will be found highly useful as an expectorant, nauseant, sedative, and diaphoretic, when given every one or two hours, as may be required. As a local application, much benefit may be derived from it where a particular nerve is to be quieted or a muscle to be relaxed. An excellent liniment may be made of a mixture of half an ounce each of oils of amber and sassafras, a drachm of oil of lobelia, and half a drachm of oil of capsicum."—*Am. Disp.*

JOHN COAKLEY LETTSOM, M. D.

Dr. John Coakley Lettsom was born in the Virgin Islands, West Indies, in 1744, and died in 1815. When six years old he went to England, and came to the notice of the celebrated preacher Samuel Fothergill, by whom he was sent to college. He was next apprenticed to Abraham Butchiff. Thence going to London, he became a pupil of the celebrated Dr. John Fothergill, a brother of the aforementioned minister. In St. Thomas's Hospital he attended the lectures of the renowned Dr. Fordyce, Benjamin Cewell, the surgeon, and others. Marvelous was his progress after graduation, for within six months he cleared ten thousand dollars. Then he went to the University of Edinburgh, and studied under the celebrated Doctors Cullen and Home. Thence he traveled, and practiced medicine, joined medical societies, and was made honorary member of associations and societies without number; this because of his literary activity, his scientific qualifications, his remarkable success in practice, and his general reputation. He wrote many biographies, was a contributor to the Gentleman's Magazine, and left large volumes of manuscript lectures on medicine. Lettsom was one of the founders of the Medical Society of London, where his name is commemorated in the "Lettsomian Lectures." In 1812 he became president of the Philosophical Society of London. He warmly supported Jenner's claims for vaccination. He wrote on industrial and agricultural subjects, among others making a study of the Mangal-wursel and the history of the tea tree, for which latter he was complimented by Linnæus on account of his botanical description. These and other works and prints too numerous to mention add to the credit of John Coakley Lettsom, who, without any special opportunity, passed from an obscure home in one of the West Indian Islands to such conspicuousness that his name was familiar to every reader of his day.



JOHN COAKLEY LETTSOM, M. D.

REFERENCES.

D. Oil of Stillingia.—This is an Eclectic remedy, and highly valued. The oil is too active for internal use unless well mixed with mucilaginous substances. In small quantities of not over a drop on a lump of sugar it works very effectively in cases of hoarseness and other throat troubles. This oil is the principal ingredient in the well-known Eclectic preparation called Compound Stillingia Liniment.

E. Stillingia Liniment.—(Compound Stillingia Liniment.) The name of this preparation is misleading, because the word *liniment* leads one to think only of a preparation for *outward application*. The larger amount of Stillingia Liniment is used *internally*, in which direction we consider it invaluable. Its uses are aptly expressed by Dr. Scudder, as follows:

This old remedy is most efficient for the relief of long-standing and obstinate coughs. For this purpose, we direct from 1 to 2 drops upon a lump of sugar, two or three times daily; and if there is an affection of the larynx, that it be freely applied to the throat; in the first stages of croup, give to a child two years old $\frac{1}{2}$ to 1 drop upon a lump of sugar every hour or two, as necessary. It is also one of the best applications to the throat in croup. SHAKE WELL. BEFORE USING.—*Scudder's Materia Medica and Therapeutics.*

REFERENCES.

To give a complete list of useful references, would necessitate the itemizing of a great part of the American *Materia Medica*s of the past century. The following are of importance as being in direct connection with the preceding text. They are from publications that often carry a large number of articles bearing on the subject, and to these a reader is naturally referred in the study of the problem:

AMERICAN DISPENSATORY:

1852. Page 314. (Edition I, King & Newton.)
1895. Pages 1168-1169. (Edition XVII, King & Lloyd.)

AMERICAN JOURNAL OF PHARMACY:

- | | |
|----------------------|-----------------|
| 1832. Pages 273-275. | 1853. Page 388. |
| 1847. " 165-172. | 1856. " 41-91. |
| 1851. " 329. | 1861. " 299. |

CINCINNATI COLLEGE JOURNAL:

1856. Pages 23-25, 45-48, 64, 90-92, 94-97, 144-146, 265, 266, 267, 268, 298, 299, 300, 301, 302, 342-345, 349, 350, 351, 352, 391, 392, 424, 426.
1857. Pages 143, 335, 557, 558, 559.
1858. Pages 160, 161, 162.

DRUGGISTS' CIRCULAR AND CHEMICAL GAZETTE, (New York):

1903. Pages 4, 5, 6.

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ECLECTIC MEDICAL JOURNAL:

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1850.	" 397, 342, 384.	1859.	" 249-255, 440, 503, 573.
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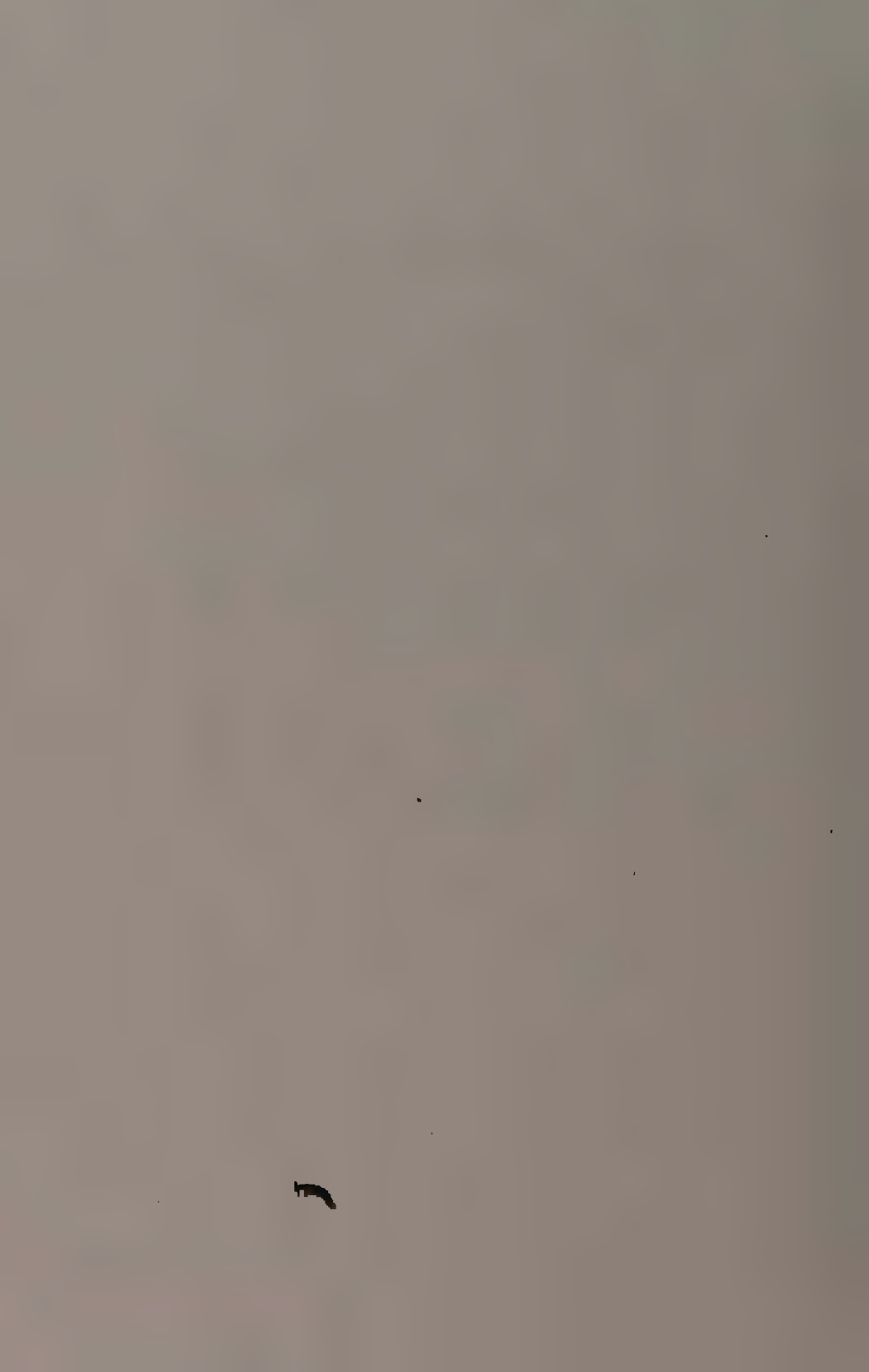
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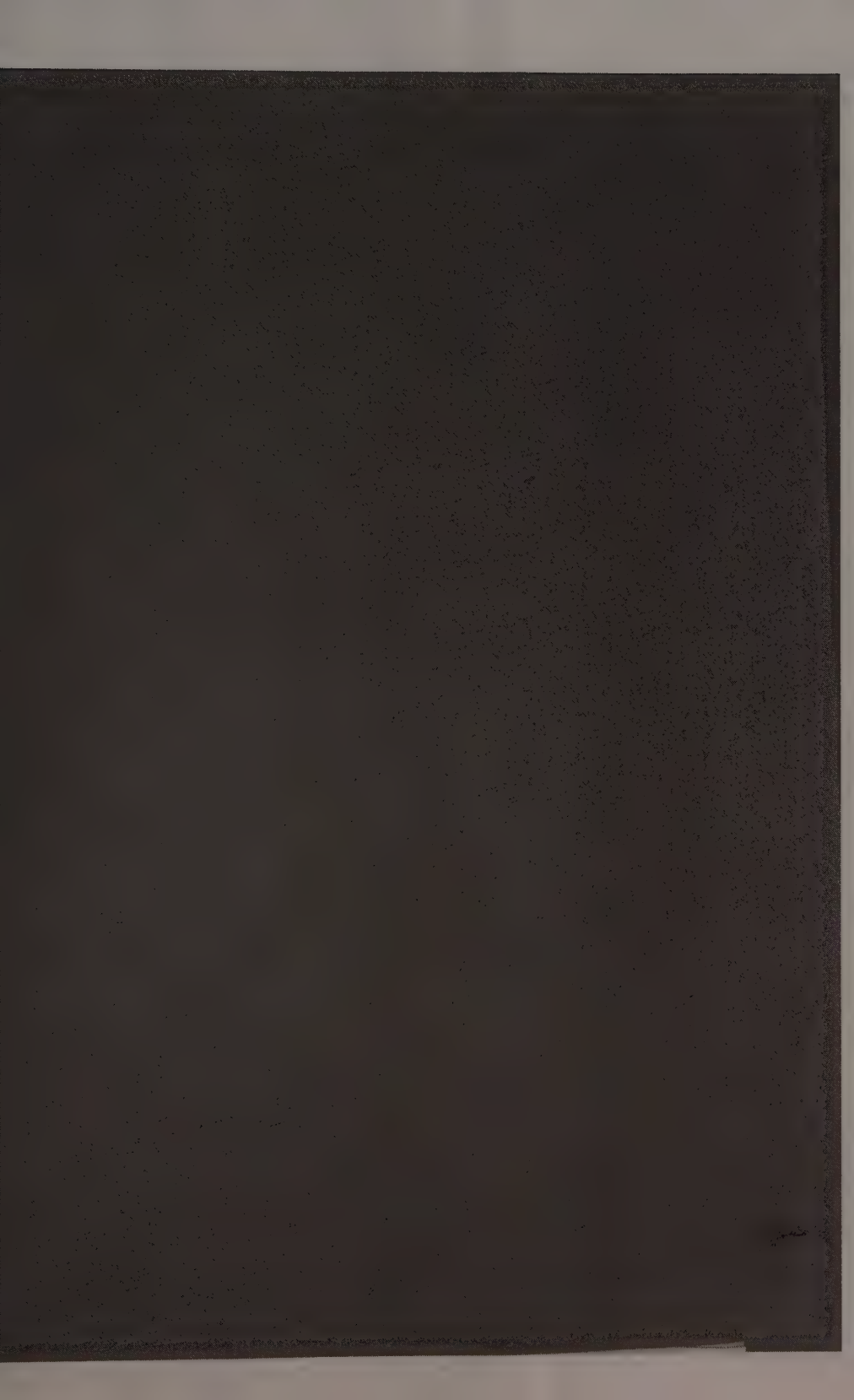
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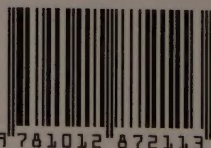


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